

THE AUTOMOBILE

WEEKLY

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Pen Pictures of the Paris-Madrid.

Analysis of the Performances of Contestants — Net Times and Average Speed — Comparative Showing Made by Various Makes of Machines with France in the Lead.

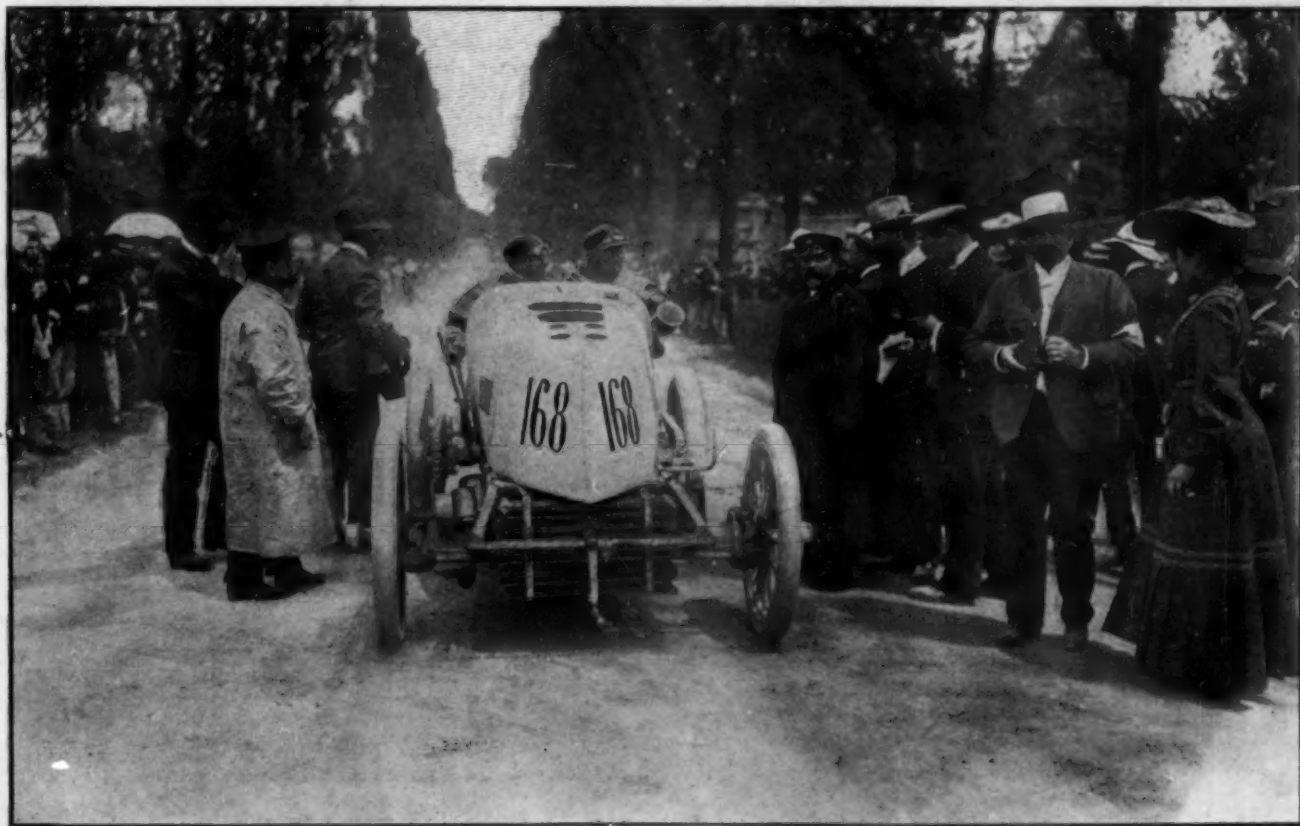
FROM SPECIAL REPORTS BY EDWARD KENEALY.

PARIS, May 27.—Like a veritable race unto death was the helter-skelter flight of the 227 contestants in the Paris-Madrid, in all styles and sizes of automobiles and motor cycles, through swirling, blinding clouds of dust from Versailles to Bordeaux on that fatal Sunday, May 24. Drivers declare that it was like

flying at top speed through a thick London fog. Behind them, to the right of them and to the left of them they could constantly hear the raucous blasts of horns, but in the thick dust it was impossible to see what was before them or at their side. From the very start accident, misadventure and tragedy befell the cars and their drivers. It is

the universal belief that no such wild flight of such a large number of heterogeneous machines, starting at such short intervals, can ever occur again.

In the two hours and five minutes between 3.45 A. M., when Jarrott started first in his Mors, and 5.50 A. M., 138 large cars started, many of them with engines of 70



GABRIEL, WINNER OF THE RACE, ARRIVING AT BORDEAUX CONTROL IN 70-HORSEPOWER MORS CAR.
Running Time, 5 Hours 13 Minutes; Distance, 342½ Miles.

and some of 100 horse power. In the next twenty-five minutes thirty-six light cars were sent away, and in the remaining thirty-five minutes, ending at 6.50, no less

corded on the occasion of the greatest race the world has ever known. A special train was sent from Vendome toward Paris to accommodate the people who had gone as



THE MOTOR FACE—Voigt, on Arrival at Bordeaux.

than fifty-three motor cycles of $2\frac{1}{2}$ and $3\frac{1}{2}$ horse power shot out, with a blind trust in Providence, into the unknown dangers besetting the $342\frac{1}{2}$ miles of badly policed roadway to Bordeaux. Two hundred and twenty-seven power vehicles scattered along less than 180 miles of common highway, thundering and rattling along at all rates of speed from almost 100 miles an hour in some phenomenal cases to the slower speeds of the motor bicycles.

LAXITY OF POLICING.

With an absolutely clear course, such a marvellous procession of cars, passing and repassing one another and rolling up a continuous cloud of dust, would have made the race dangerous in the extreme, but, added to the dangers arising from these causes and the natural peril of negotiating the awkward turns in a course that is adapted to no greater speed than thirty to forty miles in the hour, was a multiplication of unanticipated dangers imposed through an almost criminally inadequate and negligent policing of the course. "Under the circumstances of the road, it is a wonder more accidents did not happen," says Gabriel, winner of the first stage. "The small force of police and officials were absolutely helpless to restrain the crowds. The racing men were more alarmed for the safety of the rash crowds, who stood straight in the road ahead of the onrushing cars, than for their own. They did not seem to realize that the cars were making faster time than the Paris-Calais Rapide, the quickest train in Europe. Half-a-dozen troopers and a dozen gendarmes were supposed to keep 2,000 to 3,000 utterly rash persons off the route." Gabriel thinks nearly all the accidents attributable to the carelessly kept route.

EXAMPLES OF CRIMINAL CARELESSNESS.

Here is an illustration of what absolute lack of protection the contestants were ac-

far as Vendome to see the flyers on the road to Bordeaux. The watchman at the gates on the railroad near Choisy-le-Roi, not having been notified of the dispatching of the train, had not closed the gates when the train arrived. As the train reached the crossing, a large automobile, occupied by the owner and his mechanic, approached. Seeing the gates open, they were about to cross the tracks, when they noticed the oncoming train. Fortunately the automobile, which was not in the contest, was going slowly, but it could not be stopped in time to avoid a collision, so the occupants jumped out and allowed it to go on. The train, running at full speed, struck the machine, smashing it to pieces, and some

that throws a vivid light on the conditions that contributed to the causes of the day's fatalities and injuries, was the disaster met by the Frenchman Tourand, in his 40 horse power Brouhot car. When leaving the control at Angouleme, and while rushing along at great speed, he was suddenly confronted by a child of seven years which started to cross the road. A soldier bravely sprang out to save the child and was struck violently by the machine. The soldier was killed almost instantly, and his rifle was flung fifty feet away. The impact caused the car to swerve, and, still moving rapidly, it struck a tree. Both the operator and his assistant were thrown out, M. Tourand receiving serious spinal injuries, and his chauffeur, Norveau, being killed outright. As the car swerved and plunged to the side of the road it ran over another soldier, who was so badly hurt that he died twenty minutes later. A spectator was also knocked over and less badly injured. Curiously, the child, for which three lives were sacrificed, escaped entirely unhurt.

PRECAUTIONS NOT OBSERVED.

M. Combes, Minister of the Interior for France, who, upon hearing the reports of the disasters of the first day, promptly countermanded his authorization of the race, complained that the conditions and precautions that he laid down were not observed, and blamed the Automobile Club and the prefects of police of the districts within their jurisdiction for not making use of the available troops and the volunteer bicyclists and for permitting large crowds to gather at dangerous points. It had been arranged that buglers were to be posted at intervals of 200 yards along the course to sound a warning whenever a racing car



RACING ARMOR—Snapshot of Edmond and Mechanician at Bordeaux.

flying parts hit the mechanic of the motor car and inflicted serious injuries.

Another and far more lamentable case,

approached, and gendarmes and woodrangers were to keep all vehicles, pedestrians and domestic animals off the course,

while the crossroads were to be guarded very carefully. The Automobile Club guaranteed to pay all the expenses of guarding the course, but it was not kept clear. There

spectators, mostly peasants and people who were only slightly familiar with automobiles. A regiment of infantry and some gendarmes patrolled the road from Chartres



MOTOR OF BARROW'S MACHINE HURLED 30 FEET BY COLLISION.

was nobody to see that the grade railroad crossings were kept open and safe, and the contestants drove into the gates, or, in attempting to avoid them, capsized in the ditch. Non-contesting motorists and bicyclists were permitted to drive on the road almost without restriction, although pedestrians and drivers of animals were kept off.

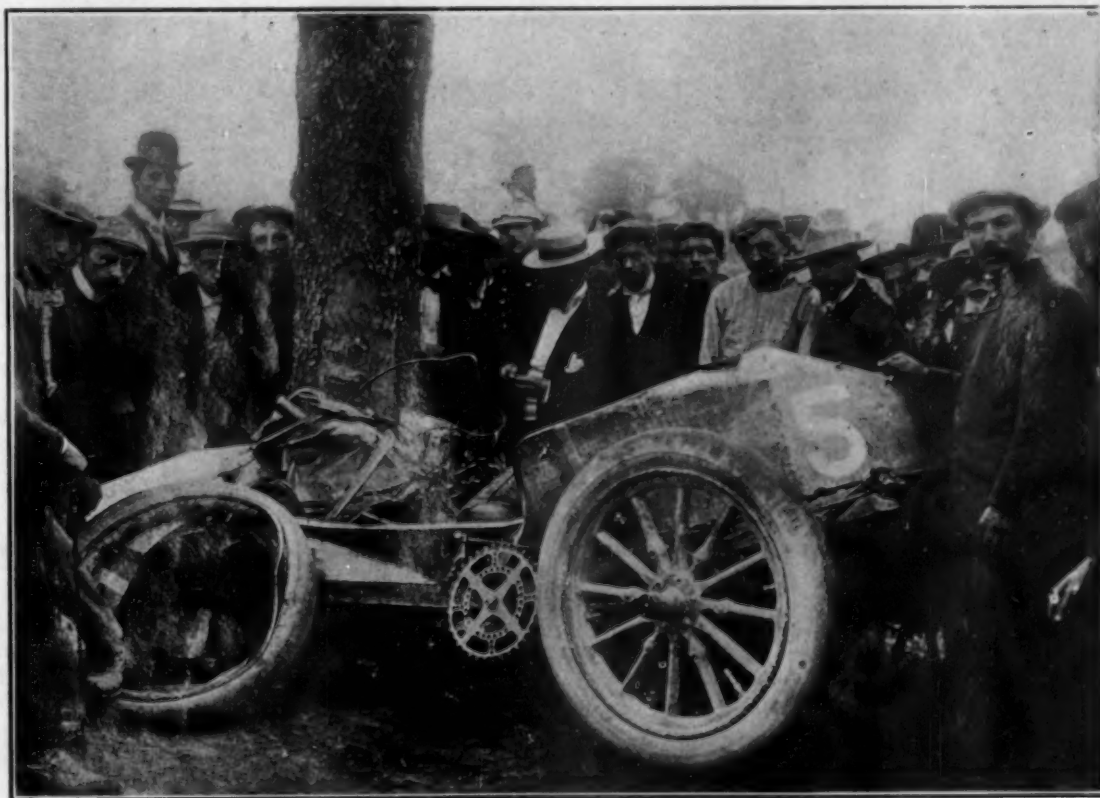
No endeavor was made to control the crowds on the eight-kilometer stretch out

to a narrow bridge at the foot of a hill at the outskirts, and, although pedestrians were not allowed to cross the bridge, but were compelled to pass under it through the stream below, ordinary automobiles and motor bicyclists went unrestricted over it. Such advantage was taken of this that one of the racing machines had to be stopped short while a man in an outside car slowly drove over the bridge. Near Chartres any stray scorcher who felt inclined simply

ARRIVALS AT BORDEAUX.

Louis Renault, who started third from Versailles at 3.47 A. M. in a 30 horse power Renault, was the first arrival at the last control, about five miles from the centre of Bordeaux. He dashed up, loaded with dust, at 12.14.45, having passed Charles Jarrott and Rene de Knyff on the road. It was fifteen minutes before the next competitor whirled up in a hurricane of dust. This was seen to be Jarrott, who started first. Then followed a long straining through field glasses as the waiters watched for the arrival of the third contestant. After more than half an hour of expectance, he sped in, and when he was recognized as Gabriel, and a hasty consultation of the order of start showed that he had passed eighty-one cars on the road, a wild burst of enthusiasm hailed him as the probable winner of the day's run. Then the racers began arriving faster, and by 2 o'clock thirteen cars had shown up.

Wise precautions had been taken to protect the road at the Bordeaux control, where, for a space of 200 or 300 yards, a barrier had been erected and soldiers with bayonets fixed kept the crowd back. Photographers and friends of the drivers, however, exhibited the utmost indifference in venturing on the road as the machines whizzed down the hill to the finish at from sixty to seventy miles an hour, but by great good fortune all the operators succeeded in slowing down their cars to almost a walk



LORRAINE BARROW'S 45 H.P. DE DIETRICH CAR AFTER COLLISION WITH A TREE AT LIBOURNE.

of Chartres, although there were several hundred automobiles scattered along it, and the course was lined with some thousands of

tacked on behind the motor bicycles in the contest and took pace for his own amusement.

within the last few yards, so that no accidents occurred. But so reckless did the people become that the soldiers were finally

obliged to charge into the crowd to force the people back.

On arrival, Louis Renault could give the anxious inquirers no news of the other racing men he had passed. "A motorist traveling at sixty to seventy miles an hour does not notice other cars," he said. When Jarrott drove up he was as calm and fresh physically as if he had driven only from a nearby village, while his English assistant was beaming with pleasure, as this was the first great race he had taken part in.

THE ACCIDENT TO RENAULT.

Shortly after the arrival of the first contestants at Bordeaux the news of the disasters along the way began coming in. When Louis Renault heard of the accident in which his brother Marcel was reported to have lost his life, he at once abandoned the race, left orders that all Renault cars be withdrawn, and drove back to Couhé, where Marcel lay in the hospital. Although

car turned right around, a wheel was smashed, and the vehicle went full tilt for a tree, against which M. Marcel was hurled with great violence."

In connection with this accident, a most sportsmanlike action was performed by Maurice Farman, who, coming upon Renault lying unconscious by the roadside, threw away his chances of winning, and, going to his assistance, carried the injured man in his car to Couhé-Verac, where surgical aid was secured.

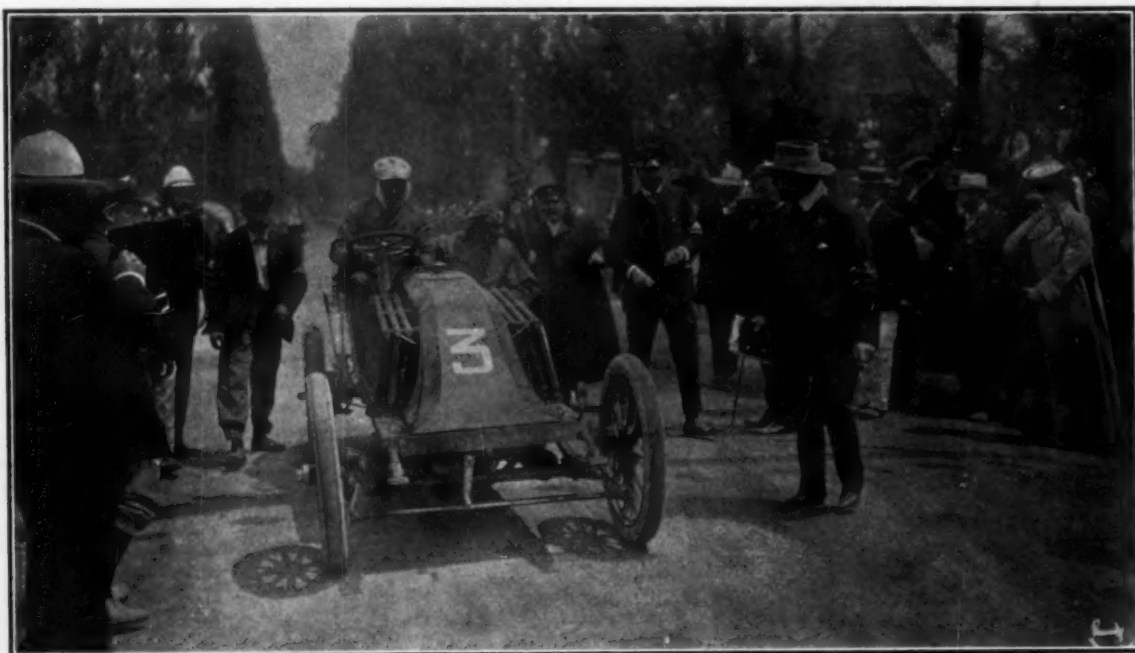
TERRY'S REMARKABLE ACCIDENT.

Incidental to the remarkable accident that happened to the American, Terry, driving a 60 horse power Mercedes, No. 290, it is stated that his chauffeur had strapped himself to the car. If this is so, he was an exception, for, notwithstanding the reports to the contrary, this is an unusual thing to do, as the risks are considered far too great. Terry's accident was

the occurrence and the strain on his nerves. His machinist recalled him to his senses just in time to prevent him being burned alive. The car was reduced to ashes, as were also two trees standing by the roadside, which the machine brought up against. Porter miraculously escaped collision with Terry's machine, but later met a more serious accident himself near Chartres, resulting in the overturning and burning of his own car and the death of his machinist, Nixon, while he was seriously burned himself.

WHY VANDERBILT WITHDREW.

W. K. Vanderbilt, Jr., says that although he quit the contest ostensibly because of a puncture, he could have easily replaced the tire with another, and in reality quit because of the bad management of the race. At the start at Versailles much needless official trouble was made because he did not have the necessary outfit of control



FIRST ARRIVAL AT BORDEAUX—LOUIS RENAULT IN 30 H. P. CAR.—Here He Learned of the Fatal Accident to His Brother Marcel.

the reported death was untrue at the time, it eventually has had to be confirmed, as Marcel Renault has since succumbed to the injuries received when, in trying to avoid closed gates at Chartres, he turned his car into a ditch and collided with a tree. The story of the accident is told in the following graphic words by M. Seret, who drove a Renault No. 113:

"Coming from the village of Couhé at fifty miles an hour at a sharp turn over a bridge spanning a river, I saw one of our cars overturned and a wheel smashed. M. Marcel's friends standing round told me he had dashed full speed round the double and very sharp corner, despite the fact that it was signalled dangerous by a sentinel waving a red flag. The car skidded and ran off the road, the wheel caught in a piece of drain pipe on the pavement, the

one of the most curious of the day. At Coignieres the intrepid driver tried to pass Porter, in a Wolseley, on his left, but Porter also turned to the left, and to avoid a collision Terry ran his wheels against the flint pavement. The tire on the front wheel burst with a sound like a Maxim gun, but the car went on like a bullet, shooting in front of Porter's car. Following the bursting of the tire, the left wheel broke, and although the engine was thrown out of gear, the machine traveled along the street sideways at a speed of more than sixty miles an hour. The breaking of the wheel split the gasoline tank, and the inflammable stuff caught fire, either from heated bearings or sparks from the road set up by the sliding friction. With the flames shooting up around him, Terry sat like a statue, petrified by the suddenness of

papers, while all along the route the course was obstructed by spectators. Vanderbilt returned to Paris with Baron de Forest, who also had a punctured tire, but who fully shared the American's views as to the great dangers and lack of proper official precautions.

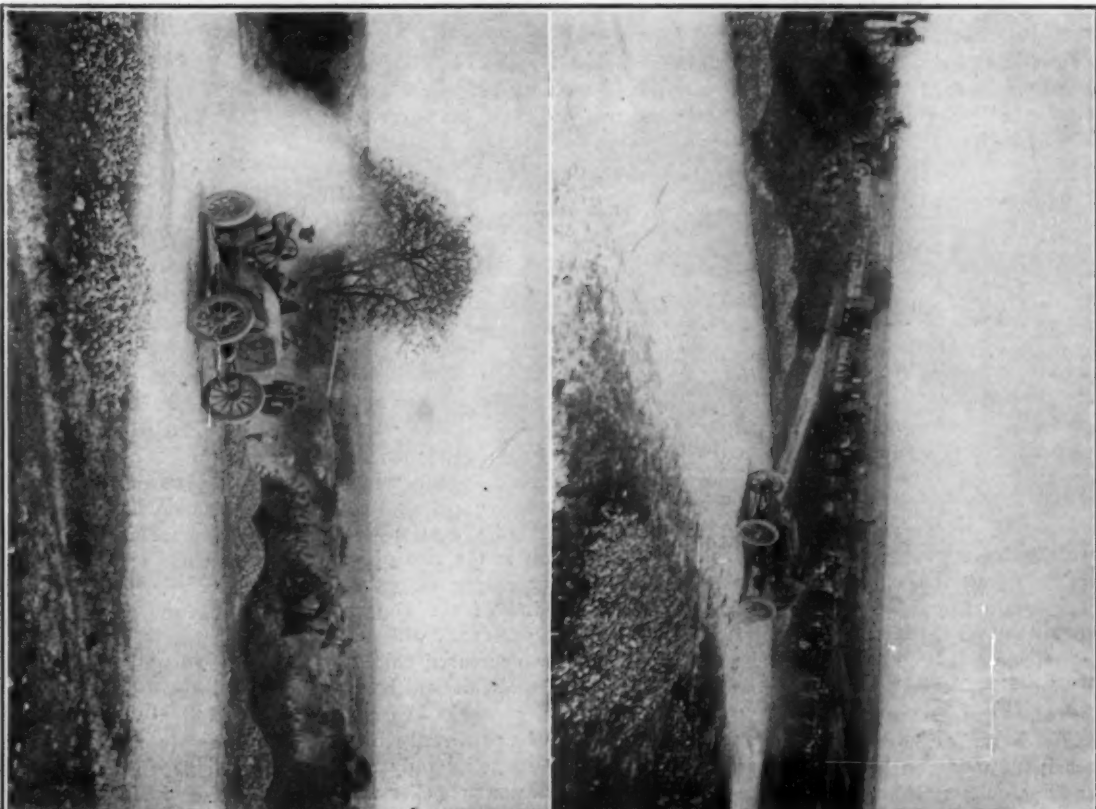
Henri Fournier, who started in a 70 horse power Mors, and hoped to reach Bordeaux in five hours, was also obliged to give up the race at Chartres. He had been one of the chief favorites.

THE UNFORTUNATE ENGLISHMEN.

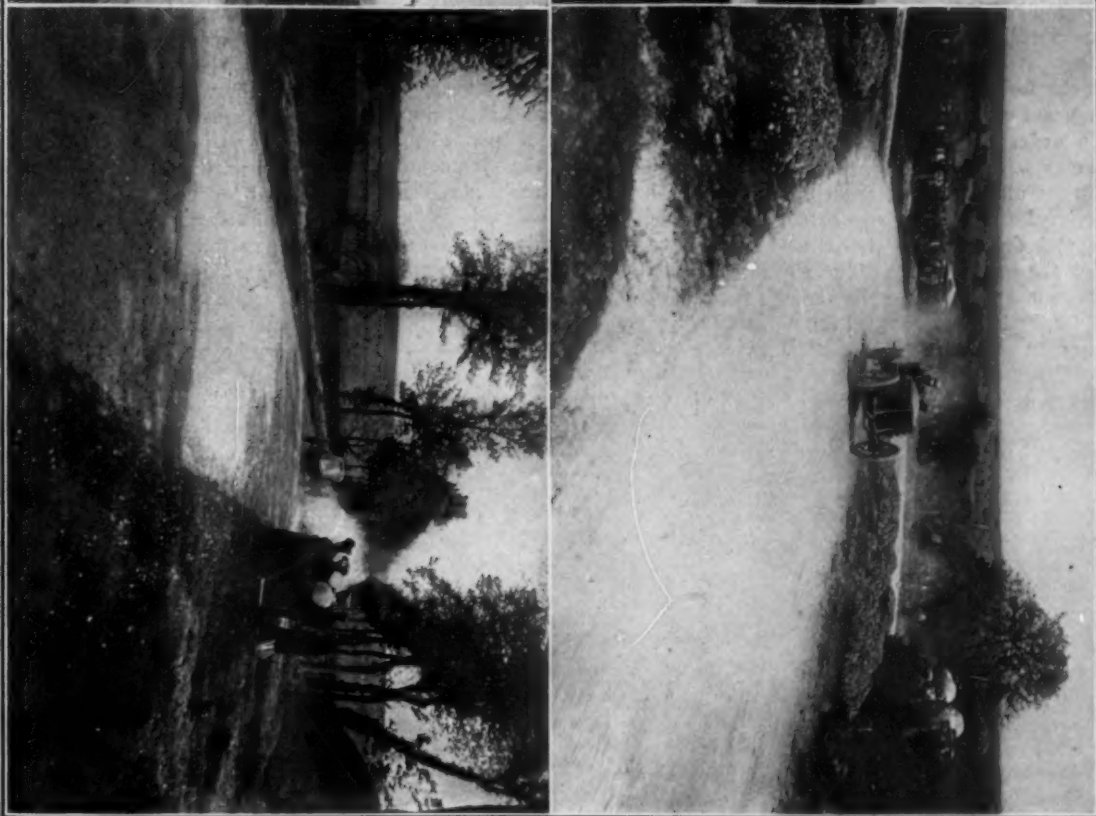
Of the twenty-five Englishmen who entered, sixteen started. Those who drove English machines were in Napier and Wolseley cars and on Humber, Ormonde, Werner and Rex motor bicycles. All of the Napier and Wolseley racing machines were

(Continued on page 600.)

Louis Renault, Who Led the Way into Bordeaux in His 30 H. P. Light Weight Car.
Baron De Caters Rounding One of the Bad Corners at High Speed in 90 H. P. Mercedes.



Charles Jarrovi, Who Started as No. 1, Making a Quick Turn in 35 H. P. De Dietrich Car.
Gabriel, the Winner, Doing Better than a Mile a Minute on a Straightaway Stretch.



SNAPSHOTS OF THE CONTESTANTS IN THE PARIS-MADRID RACE, TAKEN IN THE VICINITY OF PETIGNAC FOR "THE AUTOMOBILE" BY BRANGER & DOYE, PARIS.

Employment of the Air Propeller for Motor Boat Propulsion.

The recent announcement of the installation of an air propeller on a small pleasure boat intended for use on certain rivers in France has attracted much interest in motor boat circles and naturally gives rise to the question as to what extent this means of propulsion may be considered as a possible or probable factor in the development of propulsive means for small craft intended either for pleasure or commercial purposes. It may be first of interest to note briefly the results as reported for the boat above referred to. The boat, *Forban* by name, was built in 1902, and is 21 feet 4 inches long by 2 feet 10 inches wide, and draws only about 5 inches of water. The usual under water propeller was first fitted, but as a diameter of about 22 inches was required, the movements of the boat were much restricted in shallow water, at least in comparison with the freedom possible with no limitation other than the draft of five inches.

SPEED OF THE FORBAN.

With a 5 horse power motor and this propeller the boat is said to have reached a speed of nearly 12 miles an hour, and seems to have been quite satisfactory, except for two peculiarities of the water in which she was occasionally used. One of these was the existence of shallow banks and shoals in the Loire and the other was the abundant grass and marine growth in the Edre. In order to avoid these difficulties the under water propeller was removed and in its place was fitted an air propeller mounted on a shaft supported on the deck and driven from the same motor through the use of a belt. The air propeller is about 43 inches in diameter with four blades, and turning at 800 revolutions per minute speeds of nine to ten miles an hour have been realized.

This is by no means the first attempt to use an air propeller for boat propulsion. At least two other instances are on record, each with some measure of success.

A MOTOR BOAT PROBLEM.

It is of interest to motor boat builders to examine briefly the applicability of an air propeller for such service. In the first place it may be noted that fundamentally there is no reason why an air propeller may not be made to operate with a propulsive efficiency equal to that of a water propeller, or possibly even somewhat higher. In order to attain this, however, enormously larger sizes are necessary. Thus for equal efficiency, under the same general conditions, the diameter of an air propeller must be nearly 20 times that of a water propeller. In the case above referred to this would have called for a propeller nearly 40 feet in diameter and

would have been, of course, quite out of the question. With a propeller in use smaller than thus indicated the same total power of engine could be absorbed, but at an increased slip and with a decreased efficiency and hence with a decreased useful work and a decreased speed. It must not be assumed from the foregoing that increased slip necessarily means decreased efficiency. With a propeller working in water there is some value of the true slip, usually not far from 20 to 25 per cent., for which the efficiency will be the best, falling off rapidly as the slip is decreased and more slowly as it is increased. With a propeller working in air, however, it is more nearly correct to assume that increased slip will mean decreased efficiency. At all events any very considerable reduction in the size of propeller below that necessary to operate with a moderate value of the slip, not greatly above say 20 per cent., will surely be accomplished by a decreased efficiency and a loss of speed, and this will be true whether the propeller work in air or water. It could thus be predicted with assurance that an air propeller only about twice the size of the water propeller would certainly work with a greatly increased slip and would show a corresponding loss of useful work.

The stated results with the air propeller fully bear out these conclusions. The speed with the water propeller was 12 miles an hour, with the air propeller 9 to 10 miles have been realized. Taking the higher speed of 10 miles, it follows from the known laws of ship resistance that the loss of 2 miles an hour means the loss of something over 40 per cent. in the efficiency of propulsion; that is, if the efficiency of the water propeller was, say, .65, that of the air propeller would be below .40. It would mean that of the power developed by the engine, some 55 per cent. might be utilized for direct propulsive effort in one case and 33 per cent. in the other.

SERIOUS WASTE OF POWER.

While therefore a speed of 10 miles an hour would seem like a very gratifying result with the air propeller, it is seen nevertheless to involve a most serious waste of power, compared with the 12 miles an hour attained with the water propeller. This loss is furthermore inherent in the conditions of use, unless indeed the size of the air propeller could be increased far beyond anything lying within practicable limits. There is every reason to expect that with an increasing diameter of air propeller the lost speed above noted could be regained. It simply becomes a question of practical construction. It is evident in this connection that the necessary

shafting and bearings on the deck will interfere with the usual deck arrangements, and special provision will naturally be required to insure the necessary strength and stiffness of such structural features. Again there will necessarily be some loss of power by transmission through a belt. Doubtless some form of chain or other similar type of drive would prove more efficient and satisfactory than a leather belt. In the motor bicycle, for example, the rope drive is successfully used. This, however, is only a detail and does not touch the main features of the problem.

LOSSES AND DIFFICULTIES.

It thus follows from what has been stated that the substitution of an air propeller for a water propeller will necessarily mean: (1) A loss of efficiency and of speed due to the impracticability of fitting an air propeller of sufficient size to efficiently absorb the power; and (2) serious problems of structure in order to insure the necessary strength and stiffness, in particular as the size of the air propeller may be increased in order to save somewhat the serious waste of power.

A further consideration should not be allowed to go by without some mention. The general relations stated above between water and air propellers refer of course to air primarily at rest. It is quite conceivable that in a strong following wind the speed with the aid propeller might equal or even exceed that with the water propeller. This will be due to the increased thrust obtained by the propeller when acting in a following current of air, and must be credited to the wind and not to the propeller. On the other hand in a head wind the condition will be reversed and we can hardly conceive of a worse contrivance for making headway against the wind. While no statements are made regarding the action of the *Forban* against such a wind, it is not difficult to see that a moderate head wind would rapidly decrease the capacity of an air propeller for gathering forward thrust, and increasing in velocity would soon reverse it to a thrust directed aft instead of forward. In such cases it may be presumed that the air-propelled boat would be forced to tack back and forth across the wind making headway after the manner of a sailboat, though possibly it might be able to lie a trifle closer to the wind with the ordinary breeze.

USEFULNESS IN SPECIAL CASES.

In spite of these various drawbacks it does not follow that there may not be justification in special cases for the substitution of an air for a water propeller. The case of the *Forban* seems one in point. A boat which desires to navigate in water 5 or 6 inches deep or where the water is clogged with weeds and marine growth, certainly seems to offer a fair field for the exploitation of some "non-aqueous" system, and the air propeller may be considered as a bold and perhaps successful so-

lution of the problem of propulsion under such peculiar circumstances. It does not seem likely, however, that under more normal conditions the air propeller could ever be justified, or be considered other than a freak method of propulsion for boats.

Opening for Motor Boats on Venetian Canals.

There is a good opening for electric launches on the canals of Venice. A proposal to place them in service would not be viewed with disfavor by the town council, it is officially reported, inasmuch as the steamers running on the Grand Canal are alleged to damage, by a gradual process of erosion, the foundations of the historical palaces on the canal. The speed of the small steamers, since the fall of the Campanile, has been greatly reduced by order of the authorities, to the disadvantage of the public service. Moreover, the smoke of their furnaces is stated to injure the paintings in the picture galleries. When the Cellina electric works are in operation the motive power will be easily obtained and stored for distribution to the launches. These should be of various dimensions, of a narrow type, for passing through the small canals intersecting the town, and of a larger type for running on the Grand Canal and the Venetian Lagoon. The launches would in this way be able to perform an omnibus service to all parts of the town, some of which are now entirely cut off. An extraordinary development might also be given to the conveyance of passengers to

introducing anything of that kind in Venice is that nobody is willing to buy an article upon catalogue representations only. Intending purchasers wish to inspect samples before committing themselves, and American manufacturers therefore make little headway in the Venetian market, as they

road usually followed leading from the city through Central Park, up Seventh Avenue, a splendid wide thoroughfare with macadam surface, crossing the Harlem River at Macomb's Dam Bridge and continuing along Jerome Avenue to Moskula Parkway, and thence through Bed-



MOTORISTS IN FRONT OF CLUB HOUSE AT MORRIS PARK

do not seem disposed to satisfy this requirement by seeking reliable agents for the sale of their launches.

Automobiles in Favor at the Morris Park Races.

One of the principal outdoor social events in New York is the spring race meeting at Morris Park, situated in the picturesque Bronx district in the upper

ford Park to the picturesque Bronx Park, and further on to the race track. During the race meeting, automobiles, carriages and other less luxurious vehicles speed along in friendly rivalry both going and returning from the track.

At this meeting on Metropolitan Handicap day there were more than one hundred machines on the lawn in front of the club house. Only members of the racing club are admitted into the inclosure, and the meeting really resembles



INSIDE THE CLUB ENCLOSURE AT MORRIS PARK RACE TRACK, NEW YORK CITY.

the mainland and the neighboring islands, in a quick, comfortable and cheap way.

Aside from this public service, there is said to be a fine opening for the introduction of a cheap but well built motor boat for private uses. The great trouble about

end of the city. At this season's meeting the automobile has been in high favor as a rival of the horse-drawn equipages, by which members of the clubs and their guests reached the grounds. The trip is one of the prettiest in New York, the

a large garden party. In the accompanying snapshots the automobiles are shown grouped about the inclosure. In addition to the private vehicles there are usually many of the regular public electric vehicles present.

Elmore 10 Horse Power Touring Car.

This machine, the latest product of the Elmore factory, is rated at 10 horse power, and in its exterior conforms quite closely to conventional lines. It is distinguished, like its predecessors, from the same shops, by the use of a two-cycle engine, but in the present model the cylinders are above instead of below the crank case, and the engine is located forward under the bonnet. As may be seen from the photograph, the crankshaft lies transversely, and there are two flywheels. Transmission thence back to the speed-changing mechanism is by roller chain of 3-4-inch pitch, and thence by 1 1-4-inch pitch chain again to the rear axle, no bevel gears being used.

The engine is illustrated in Fig. 3. It is equipped with a float-feed vaporizer and contact spark igniters with fixed lead. Its operation, starting with the vaporizer, is as follows: Gasoline enters the float chamber past the ball valve *e*, and air enters by the apertures *f*, drawing past the adjustable needle valve *g*. On the down or power stroke of the piston the mixture in the crank case is compressed, and when port *a* is uncovered the mixture in the crank case passes upward by a transfer passage, being deflected to the top of the cylinder and expelling the burnt gases through the exhaust port *c*, as shown by the arrows in the drawing. On the upstroke of the piston the fresh charge is compressed, and a partial vacuum is produced in the crank case. When the bottom of the piston uncovers port *h*, air enters from the vaporizer with a rush, taking up gasoline as it goes. Meanwhile the compressed charge is fired, and the cycle is then repeated. As the pistons work on opposite cranks, there is an impulse at every stroke.

The speed-changing gear works on the planetary system and has a clutch giving direct drive on the high speed. It is shifted forward or back by the screws *O*, Fig. 4, to adjust the tension of the engine chain; while adjustment of the second chain is accomplished by long distance rods, one of which is seen in the photograph, running back to the rear axle. Besides the usual high and low speeds and reverse this gear gives an intermediate speed of a ratio of 2.25 to 1 with the high. This is accomplished, the makers state, by a special construction in which no small pinions are used. The smallest pinion in the device has 18 teeth, and all the pinions are stated to run on roller bearings, having rollers several times the length of the studs. All three forward speeds are controlled by a hand lever *E* on the steering column. A lever under the left foot operates the reverse, and another under the right foot applies the band brake on the differential. All the friction bands of the transmission are

faced with leather, and have full provisions for adjustment. Throttle regulation of the engine is accomplished in an unusual way, through a forked lever *H* worked sidewise by the left foot, which, of course, is not normally occupied with

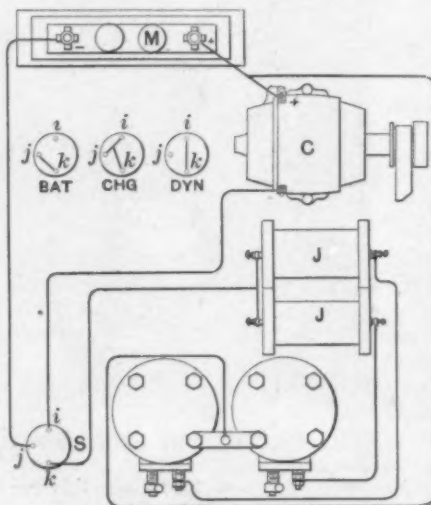


FIG. 5—ELMORE WIRING CONNECTIONS.

the reverse. The throttle valve itself is located in the tee just above the vaporizer.

The frame is built up principally of angle steel with the web uppermost, so that the body sets over it like the lid of a box. The rear axle tubes are 2 1-4 inches in diameter, and the axle is braced in front and below by truss rods. The front axle is of 1 5-8-inch tubing. Hyatt roller bearings are used in the rear, and ball bearings in the front wheels. The front springs are 34 inches long, and the rear springs 36 inches. The wheels are 30 inches in diameter, with 3-inch clincher tires, and the wheel base is 77 inches. The tread is 56 inches and the total weight is given as 1,450 pounds.

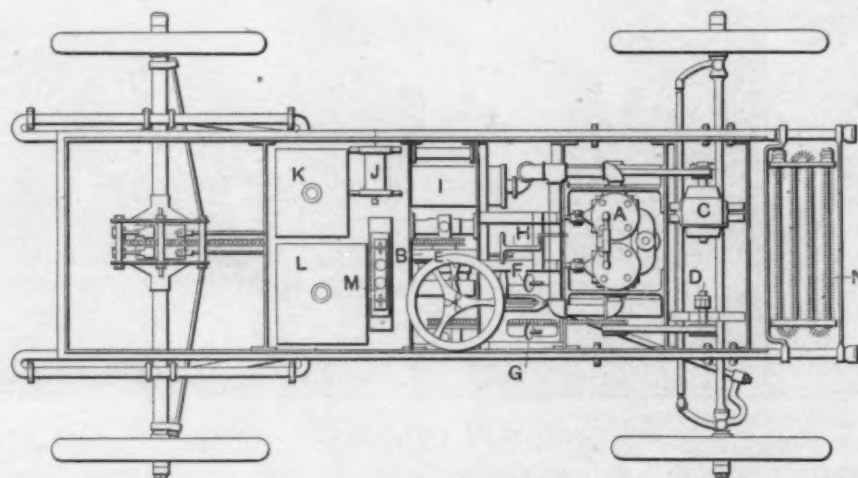


Fig. 2—PLAN OF CHASSIS OF ELMORE 10 HORSE POWER GASOLINE CAR.

A Motor.
B Speed changing mechanism.
C Dynamo.
D Pump.
E Speed changing lever.

F Reverse pedal.
G Brake pedal.
H Fork throttle pedal.
I Muffler.
J Spark coil.

K Water tank.
L Gasoline tank.
M Battery.
N Radiator.

The water and fuel tanks and spark coils are under the front seat. A storage battery is used for starting, and as a reserve, a dynamo supplying the ignition current when running. A diagram of the wiring connections is given, Fig. 5, in which the connections afforded by three positions of the switch *S* are given in the detail sketches marked *BAT*, *CHG*, *DYN* respectively. In the first position the spark current is drawn from the battery, in the third from the dynamo, and in the second both battery and dynamo are in circuit, and the latter charges the former between sparks.

Steering is by irreversible wheel, which may be tilted forward for convenience in entering. Cooling is by forced circulation from a pump.

The same company makes a 6 horse power runabout, with the engine under the seat, shorter wheelbase and generally lighter construction, but mechanically quite similar to the car just described. The runabout is known as the Model 7, and the touring car as the Model 8.

Lubricating the Chain.

First thoroughly clean the chain by repeated immersion in naphtha or benzine. When dry, place in a flat pan large enough to receive the chain when coiled up somewhat loosely, advises the Joseph Dixon Crucible Co., and then melt in the pan enough of the chain compound to entirely cover the chain. The temperature of the melted compound should be at least 180 degrees, to insure sufficient fluidity, so that it will reach the interior wearing surfaces of the chain. The chain should be moved about as much as possible to aid the composition in reaching the farthest crevices. Removing the chain, allowing it to cool and again immersing it in the compound, will aid materially in bringing about this result. When finally removed, the surplus compound should be wiped off and the

chain allowed to become cold. Never use the chain before perfectly cold, as the material will be forced out of the joints. This treatment will surround each pivot with a bushing of excellent lubricating quality, hard and durable.

Automobile Owner's Indemnity.

To protect owners against heavy damage suits resulting from unavoidable automobile accidents, several of the larger insurance companies are now issuing liability policies quite similar in wording and intent to those for some time issued to large owners of trucks, teams, etc.

These special automobile policies usually afford \$5,000 protection for one injury, or not to exceed \$10,000 for one accident. It will, of course, be understood that the assured is protected against costs and damages only and not beyond this, and the limit of protection, as stated, is \$5,000 for a single injury. Thus, supposing a pedestrian, being injured, sues the assured for \$2,000 dam-

sued for \$7,000, and that sum be awarded by the court, the insurance company will

There seems to be no difficulty in arranging these matters amicably and well within

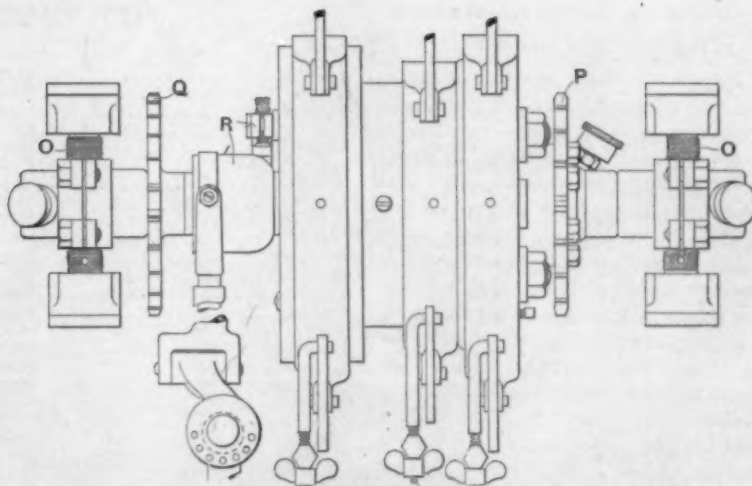


FIG. 4.—SPEED-CHANGING MECHANISM OF THE ELMORE CAR.

O Chain Adjusting screws. P Engine chain sprocket. Q Rear chain sprocket. R Clutch.

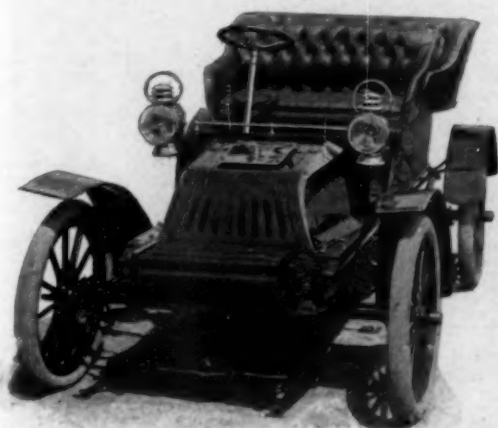


FIG. 1.—FRONT AND SIDE VIEWS OF THE ELMORE TONNEAU TOURING CAR, WITH 2-CYCLE MOTOR.

ages; the insurance company will defend the assured, paying the court costs and the damages awarded. Should the assured be

assume not to exceed \$5,000 of that liability. The general policy is, however, not to allow settlement to be decided by the courts.

the limit of protection, the representatives of the insurance company acting as agent for the assured.

These liability policies are written to cover specific machines only, and the annual premium advances from \$50, depending on the type of vehicle, the power, location, use, etc. Property damage is not covered, special policies being issued for such protection, and injury to the occupants of an automobile (being covered by ordinary accident policies) are also in a different class. The policies to which this article relates are strictly intended to afford protection against damage suits.

Considering the newness of this branch of the insurance business and the success already attained, it is evident that these indemnity policies are being received with favor alike by owners of public and private automobiles.

An automobile exhibit in operating and speeding will be one of the features of the Minneapolis Riding and Driving Club races from June 30 to July 4.

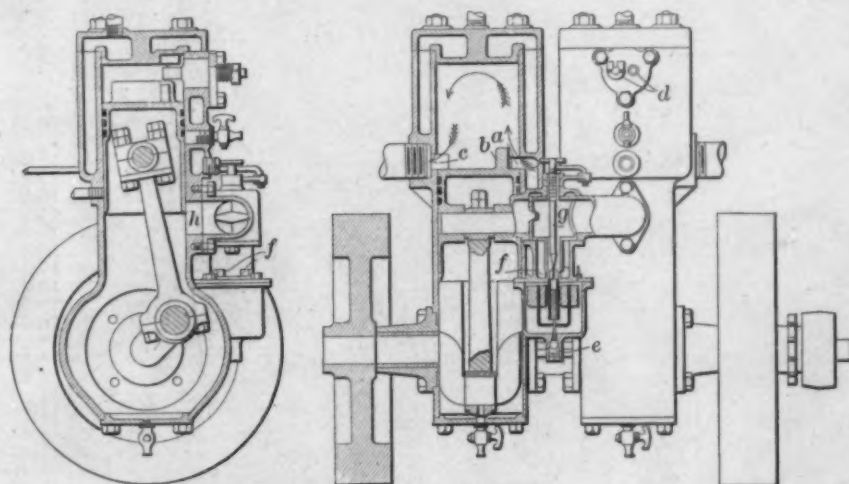


FIG. 3.—THE TWO-CYCLE ELMORE GASOLINE MOTOR.

a Transfer port.
b Deflector.
c Exhaust port.

d Igniter.
e Ball float valve.
f Air inlet orifices.

g Needle valve.
h Inlet port to crank case.

Pen Pictures of Paris-Madrid.

(Continued from page 614.)

unfortunate, either being wrecked or breaking down on the road. Mark Mayhew, who started seventy-second from Versailles in the 35 horse power Napier which he drove in the Welbeck speed trials and which, it is understood, he is to drive in the Gordon Bennett as leader of the English team, reached La Gironde, near Bordeaux, with so few machines ahead of him that it is calculated he should have finished in ninth position. Feeling sure of a good showing, he slowed down somewhat to reduce the chances of accident, but suddenly his steering mechanism became unmanageable and the front wheels spread apart. His assistant, greatly alarmed, jumped off, turned several somersaults, and finally came to rest considerably bruised and dazed. Mayhew, seeing his car heading for a tree, jammed down the brakes and got off with nothing worse than a bruising of the ribs from the steering wheel, and injuries to the legs caused by the levers. Examination of the machine showed an old flaw in one of the steering connections. Up to the time of the accident he had made a non-stop run. Speaking of the race, Colonel Mayhew says that when going at speeds above a mile a minute, the front wheels literally jump off the road, so that fine steering is rendered impossible. A road with an arched crown, he says, is most difficult and dangerous when passing a competitor, as, when going at high speed, and having turned out, both cars are riding on an arch, and the least unevenness throws the steering wheels out of the centre.

Mr. Austin, general manager of the Wolseley Company, had covered more than 200 miles of the course when a connecting rod broke. Only three of the sixteen Englishmen who started completed the first stage. They were Charles Jarrott, on a de Dietrich, Jack Holder, on a 35 horse power Holder, and Arnott, on a Werner motor bicycle.

THE PLUCKY AMERICAN LILLIE.

Leon Serpollet is happy over the success of his cars, six out of eight of which covered the whole stage. One of these was driven by Mr. Lillie, an American, who showed the stuff he is made of when, being confronted with a small Darracq car that had no business on the road, he deliberately ran into it in preference to plunging into a deep ditch, and, though thrown out and having both his legs run over by the machine, continued on.

Another Serpollet was driven by Rulot, who met with an accident, and, assisted by his mechanic, worked like a Trojan for ten hours and arrived at Bordeaux within the 24-hour limit, although neither had anything to eat or drink throughout the whole trip.

THE PROHIBITION APPROVED.

Following the action of M. Combes, the French Minister, and upon representations

NET TIMES OF THE CONTESTANTS.

Driver	Make of Car	H.P.	Net Time
Gabriel.....	Mors.....	70	5:13:31
Louis Renault.....	Renault.....	30	5:39:59
Salleron.....	Mors.....	70	5:46:01
Jarrott.....	De Dietrich.....	45	5:51:55
Warden.....	Mercedes.....	60	5:56:30 1/2
De Crawhez.....	Panhard.....	70	6:01:08 1/2
Voight.....	C. G. V.....	40	6:01:09 1/2
Gasteaux.....	Mercedes.....	60	6:08:00
A. Fournier.....	Mors.....	70	6:11:39
Baras.....	Darracq.....	40	6:12:46
Rougier.....	Turcat-Mery.....	45	6:16:07 1/2
Mouter.....	De Dietrich.....	30	6:17:54 1/2
Page.....	Decauville.....	30	6:19:08 1/2
Jenatzy.....	Mercedes.....	90	6:24:08 1/2
Max.....	Mercedes.....	40	6:39:35 1/2
Le Blon.....	Serpollet.....	40	5:43:51 1/2
Berteaux.....	Panhard.....	70	6:46:55
Angieres.....	Mors.....	70	6:52:49 1/2
Hemery.....	Darracq.....	40	6:52:53 1/2
Chanliaud.....	Serpollet.....	40	7:07:07
Braun.....	Mercedes.....	60	7:07:01
Pellisson.....	De Dion Bouton.....	26	7:12:43 1/2
Thery.....	Decauville.....	20	7:13:16
Teste.....	Panhard.....	70	7:01:23
Masson.....	Clement.....	18	7:16:57 1/2
Laverne.....	Mors.....	70	7:21:49 1/2
Barillier.....	Georges Richard.....	12	7:39:08 1/2
Rigolly.....	Gobron-Briellie.....	100	7:44:08 1/2
Wagner.....	Darracq.....	20	7:47:12 1/2
Kohler.....	Mercedes.....	90	7:48:02
Baron de Caters.....	Mercedes.....	90	7:53:50 1/2
Lamberjack.....	Panhard.....	70	7:59:00
Edmond.....	Darracq.....	40	8:00:34 1/2
Guders.....	Pipe.....	24	8:02:26 1/2
De Bron.....	De Dietrich.....	45	8:02:50 1/2
Sincholle.....	Darracq.....	40	8:04:07 1/2
Langlois.....	Panhard.....	70	8:06:47 1/2
Comber.....	G. Richard.....	14	8:08:26 1/2
Holley.....	De Dion Bouton.....	9	8:22:19
Van de Poel.....	Pipe.....	24	8:24:06 1/2
Legras.....	Passy-Thellier.....	16	8:24:56 1/2
M. Fournier.....	Clement.....	18	8:25:32
Birnbaum.....	Ader.....	16	8:25:50
Osmont.....	Darracq.....	40	8:29:40 1/2
Bardin.....	De Dion Bouton.....	18	8:30:13 1/2
Barbaroux.....	Benz.....	60	8:35:41
Girard.....	C. G. V.....	20	8:37:45 1/2
Vilain.....	Prunel.....	—	8:40:14 1/2
Villemin.....	Darracq.....	—	8:42:14 1/2
Weisser.....	De Dion Bouton.....	9	8:46:28
Rasson.....	Clement.....	40	8:46:52 1/2
Simon.....	Ader.....	32	8:54:01 1/2
Bucquet.....	Werner.....	3	8:57:01
Valentin.....	Ader.....	35	8:58:43 1/2
Sommier.....	Ader.....	12	8:59:30 1/2
Demester.....	Griffin.....	3 1/2	9:03:44 1/2
Gavaris.....	Panhard.....	30	9:05:32 1/2
Chenn.....	Chenn.....	20	9:05:49 1/2
Loste.....	C. G. V.....	15	9:13:15
Charron.....	C. G. V.....	44	9:15:52
d'Udeken.....	Serpollet.....	40	9:20:46 1/2
Jollivet.....	Griffin.....	3 1/2	9:25:54 1/2
Corre.....	Corre.....	—	9:27:36 1/2
d'Hondeauville.....	Passy-Thellier.....	16	9:28:31 1/2
Hieronimus.....	Mercedes.....	90	9:30:45
Versein.....	Auto-Motobloc.....	—	9:38:47
Cissac.....	Peugot.....	3 1/2	9:39:36 1/2
Duray.....	Gobron-Brillie.....	100	9:40:01
Durand.....	Mors.....	30	9:49:42 1/2
Vand re Heyden.....	Panhard.....	70	9:50:12 1/2
Lafranchi.....	Peugot.....	3 1/2	9:50:40
d'Hespele.....	—.....	—	9:59:25
Degrais.....	Mercedes.....	90	10:02:45 1/2
Lafont.....	De Dietrich.....	30	10:11:26 1/2
Ollivier.....	Serpollet.....	20	10:15:06 1/2
Derny.....	Clement.....	—	10:23:23
Gautier.....	Ader.....	16	10:24:26 1/2
Caillots.....	Serpollet.....	40	10:25:24
Holder.....	Holder.....	30	10:31:06 1/2
Koechlin.....	Gobron-Brillie.....	100	10:35:28
Griet.....	Griffin.....	3 1/2	10:43:46 1/2
Storero.....	Fiat.....	24	10:45:08
Mdme. du Gast.....	De Dietrich.....	30	10:52:46
Turr.....	Panhard.....	40	10:56:12 1/2
Maillard.....	Werner.....	3 1/2	10:56:43 1/2
Momo.....	Peugot.....	3 1/2	11:03:20
Dombret.....	Auto-Motobloc.....	—	11:05:22 1/2
Aaron.....	Corre.....	12	11:22:22 1/2
Comiot.....	C. G. V.....	20	11:30:00
Bentler.....	De Dietrich.....	45	11:30:45
Dernier.....	Clement.....	40	11:31:23 1/2
Prost.....	Done.....	2 1/2	11:42:05
Le Bertie.....	De Dion Bouton.....	9	11:42:05
Flouret.....	Flouret.....	16	11:50:59
De Boisse.....	De Boisse.....	—	11:59:51
Arnott.....	Werner.....	3 1/2	12:08:02
Davaud.....	Lambert.....	12	12:24:40
Deniot.....	Henriod.....	24	12:27:51 1/2
Gerden.....	Carre.....	16	12:31:32

Driver	Make of Car	H. P.	Net Time
Quinzeaut.....	Ader.....	35	12:34:19½
Martel.....	Griffin.....	3½	12:41:02
Ribes.....	Panhard.....	70	12:52:18½
d'Aubignosc.....	Ader.....	35	13:04:24
Gaste.....	Automotrice.....	—	13:21:10
Pagliano.....	Lambert.....	12	13:26:40
Amblard.....	Mors.....	70	13:32:20
Baret.....	Brunea.....	3½	13:59:00
Maillard.....	Werner.....	3½	14:03:08
Dombret.....	Auto-Motobloc.....	—	14:08:42
Lillie.....	Serpollet.....	40	14:58:02

from France, the Spanish Government prohibited the extension of the contest into Spanish territory, but later permission was telegraphed for the racers to proceed to

reduced, and the news of the accidents of the first day had been published broadcast, so that the course would have been better protected and the people more cautious

speed permitted the tourist section. Others of the racing contingent were heartily in accord with the authorities. Charles Jarrott was among there. "I am positively of the opinion," he says, "that the decision to prohibit the Paris-Madrid race was a wise one. There were too many cars in the race, and the speeds were too great. Enormous motors and light frames prove nothing commercially. Racing under the present regulations will never be allowed again in France. I consider that new rules should be framed at once, limiting the size of the



Valentin, No. 16, in 35 H. P. Ader. Barden, No. 81, in 20 H. P. De Dion.
SCENES AT THE BORDEAUX CONTROL WHEN THE MIDDLE TIME MEN CAME IN.

Madrid as tourists. It was generally felt by the contestants and the officials of the race that it would be safe to continue, as the number of contestants had been greatly

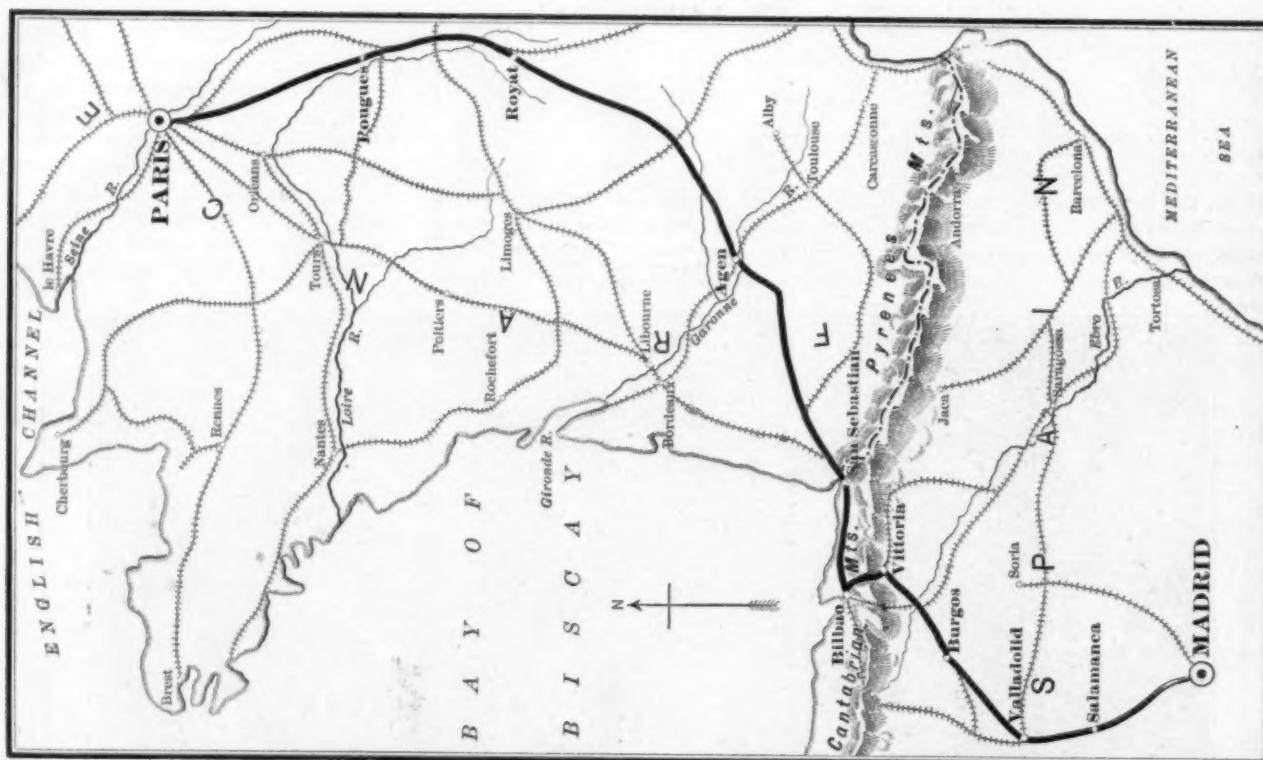
about crossing and using the road. The authorities were inexorable, however, and so the racers returned to Paris, few of them caring to go on to Madrid at the legal

motor with a fixed minimum weight. The drivers in future races should be carefully picked, and the entries limited to a reasonable number."



BARAS, No. 47, IN 40 H. P. DARRACQ, ARRIVING AT BORDEAUX—TIME, 6:12:46.

Scale Map of Tourist Section Route.



Speeds in Racing Class.

AVERAGE SPEEDS OF FASTEST COMPETITORS.

PARIS TO BORDEAUX, 343 MILES.

Class 1 — Cars weighing up to 1,000 kilos (2,206 lbs.).

Driver and Car	Time Taken	Miles per Hour
Gabriel (Mors)	5:13:31	65 1/2
Salleron (Mors)	5:46:01	60
Jarrott (de Dietrich)	5:51:55	58 1/2
Warden (Mercedes)	5:56:30	58
De Crauwhez (Panhard)	6:01:08	57
Voigt (C. G. V.)	6:01:09	57
Gasteaux (Mercedes)	6:08:00	56
A. Fournier (Mors)	6:11:39	55 1/2
Rougier (Turcat-Mery)	6:16:07	54 3/4
Moutier (de Dietrich)	6:17:54	54 1/2
Jenatzy (Mercedes)	6:24:08	53 3/4
Max (Mercedes)	6:39:35	52
Le Blon (Serpollet)	6:43:51	51 1/2
Berteaux (Panhard-Levassor)	6:46:55	50 1/2
Angières (Mors)	6:52:49	50

Class 2 — Cars up to 650 kilos (1,434 lbs.).

L. Renault (Renault)	5:33:59	61 1/2
Barras (Darracq)	6:12:40	55
Puge (Decauville)	6:19:08	54
Hemery (Darracq)	6:52:33	50
Pellissier (de Dion-Bouton)	7:12:43	47 1/2
Thery (Decauville)	7:13:16	47 1/2

Class 3 — Voiturettes up to 400 kilos (882 1/2 lbs.).

Masson (Clement)	7:19:57	46 3/4
Barillier (G. Richard)	7:39:00	45
Wagner (Darracq)	7:47:12	44 1/4
Comblat (G. Richard)	8:07:26	42 3/4
Holley (de Dion-Bouton)	8:22:19	41
Legros (Passy-Thellier)	8:24:56	40 1/2

Class 4 — Motor Cycles up to 50 kilos (110 lbs.).

Rucquet (Werner)	8:57:01	38
Demester (Griffon)	9:03:44	37 3/4
Jollivet (Griffon)	9:25:54	36 1/2
Cissac (Peugeot)	9:39:36	35 1/2
Lafranchi (Peugeot)	9:50:40	34 3/4

PERFORMANCES OF THE BIG CARS.

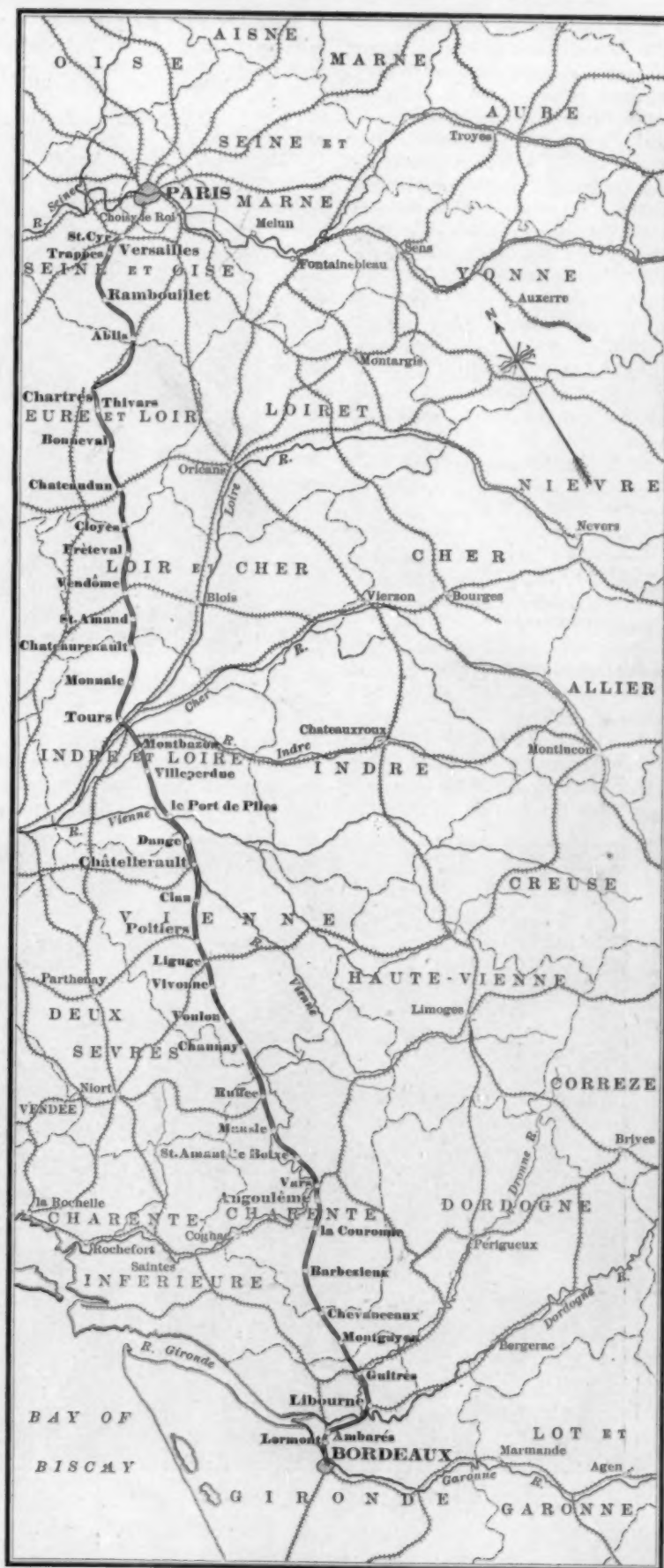
PARIS TO BORDEAUX, 343 MILES.

Name	Average Time
MORS—	
13 started; 6 finished in the average time of	6:50:20
MERCEDES—	
12 started; 9 finished in the average time of	7:30:08
PIPE, 24 h.p.—	
4 started; 2 finished in the average time of	8:14:16
PANHARD—	
16 started; 9 finished in the average time of	8:45:43
DE DIETRICH—	
10 started; 6 finished in the average time of	8:46:16
C. G. V.—	
4 started; 3 finished in the average time of	8:55:40
GOBRON BRILLIE—	
5 started; 3 finished in the average time of	9:09:52
SERPOLLET—	
7 started; 6 finished in the average time of	9:48:20

Race Itinerary Paris-Bordeaux and Scale Map of the Course.

Miles bet. points. Miles from start.

VERSAILLES (start) . 0	
Saint Cyr 3	
Trappes 2½	5½
Coignieres	
Le Perray 7¾	13¾
RAMBOUILLET 3	16¾
Ablis 11½	27¾
Le Guede Longroy . . . 5¾	33¾
Le Moulin Rouge . . . 7½	41½
CHARTRES 5	46½
Louisant, Thivars . . . 5	51½
La Boudmiere 4¼	55¾
Vitray-en Beauce . . . 3	58¾
Bonneval 6¾	65½
Flacey-Marboue . . . 5	70½
CHATEAUDUN 3¾	73¾
Cloyes 6¾	80½
Saint-Hilaire (Loir et Cher) 5	85½
Pezou 5¾	91¾
VENDOME 6¾	98½
Saint-Amand 8¾	106¾
Chateaurenault 7½	114¼
Monnaie 9¼	123½
TOURS 10	133½
Chambray 4½	138
Montbazou 3¼	141¼
Sorigny 3¼	144½
Sainte-Catherine . . . 6¼	150¾
Saint-Maure 2¼	153¼
Le Celle-Saint-Avant . . 2¼	156¼
Port-de-Piles (Vienne) . 5	161¼
Les Ormes 2¼	164
Dange 2¼	166¼
Ingrandes 5	171¼
CHATELLERAULT . . 4½	175¾
Les Bords-de Naintre . . 5	180¾
La Tricherie 3	183¾
Clan 5	188¾
Grand-Pont 3	191¾
POITIERS 3¼	195
Croutelle 3¼	198¾
Vivonne 7½	205¾
Les Minieres 6¼	212
Couhe 5½	217½
Chaunay 6¾	224¼
Les Maisons-Blanches . 5	229¼
RUFFEC (Charente) . . 9	238¼
Les Negres 3¾	242
Mansle 6¾	248¾
Tourries 5¾	254½
La Chignolle 3¾	258¼
L'Houmeau-Pontouvre . . 5	263¼
ANGOULEME 1¾	265
La Couronne 4½	269½
Roulet 3¾	273¼
Petignac 5	278¼
Barbezieux 8	286¼
Reignac 3¾	290
La Graule 4½	294½
Chevancaux 3¾	298¼
Montguion 6¼	304½
Guitres (Gironde) . . . 14	318½
LIBOURNE 9	327½
Arveyres 3	330½
Beychac 6¾	337¼
Les Quatre-Pavillons (Arrivee) 5¾	343

SCALE OF STATUTE MILES
10 20 30 40 50 60 70 80 90 100

The Spanish public in Madrid heartily commended the Automobile Club for asking for the prohibition of the race, notwithstanding it meant a heavy loss to many. A false rumor that some of the cars were coming through at high speed in disregard of the suspension created a temporary scare. All the balls, bull fights and other festivities arranged for the occasion were abandoned, and a feeling of depression and disappointment is said to pervade the Spanish capital. All the valuable prizes offered in connection with the Spanish portion of the race are to be returned to the donors.

FRENCH GOVERNMENT TAKES CHARGE.

As soon as the suspension order was announced in Bordeaux, the Government took charge of the racing cars, practically impounding them in an enclosure over night. When released the next morning they were not allowed to depart under their own power, and it was a strange procession that moved away, some towed by touring cars, others by horse-drawn cabs, and still others by horses directly hitched to the machines themselves. Each machine, as it left, was placed in charge of a policeman. Most of the machines were returned to Paris by train.

Heavy losses have been sustained by the manufacturers and club by the abandonment of the race. The Mercedes, Mors and Panhard companies estimate their losses at from \$4,000 to \$6,000. The combined cost of the cars of all classes in the race aggregated \$1,000,000. An enormous outlay was also incurred in establishing

THE INJURED IMPROVING.

The latest obtainable news of the injured is favorable, with the exception of the demise of poor Renault. Lorraine Barrow shows improvement, although it may be

car; Caillon, the cyclist, and the soldier Dupuy, who was killed at Angouleme, were buried on Tuesday. The remains of William Nixon will be taken to Belfast, Ireland, for burial, although the body has

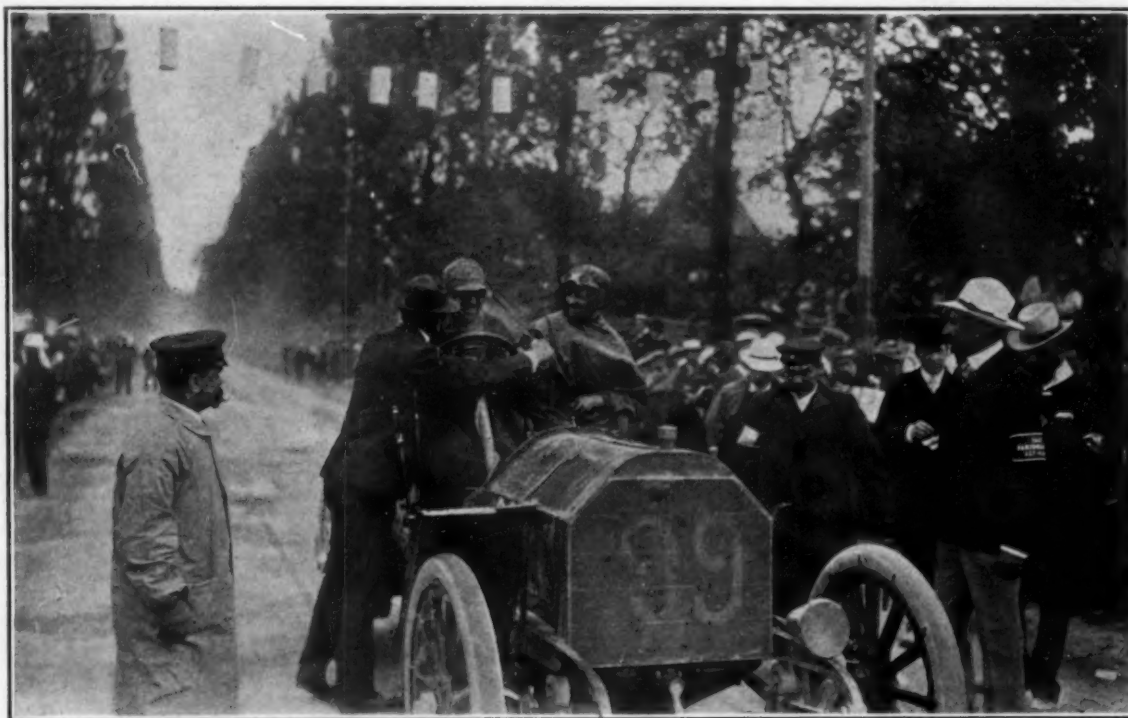


TOURAND'S (No. 23) 40 HORSEPOWER BROUHOT AFTER THE SMASHUP.

necessary to perform an operation. He is delirious, and keeps giving instructions to his machinist regarding the race. Mr. Stead, who broke several ribs, is much bet-

been placed temporarily in a mausoleum at Boneval.

There is absolutely no truth in the report that an old peasant woman who attempted



J. E. WARDEN IN 60 H-P. MERCEDES ARRIVING AT BORDEAUX — Fifth on the Winner's List.

repair and supplies stations along the entire route, as many as 100 employees being distributed between Paris and Madrid by some firms.

ter and has returned to Paris. Georges Richard, L. Porter and M. Tourand are all doing well.

Nourmand, the driver of M. Tourand's

to cross the road was killed. Seven persons in all are dead as a result of the disasters, four of these being operators of racing machines.

Correspondence

An Invitation from the West.

Editor THE AUTOMOBILE:

Sir:—I read with great interest your article on the first page of the issue of May 2, of the Chicago man who rides to and from his business each day.

I have a 1903 16-horse power Peerless touring car, and I use it every day for riding to and from the mines in my charge and for every purpose where I formerly used my horses.

We probably have as fine a system of roads here as there is in this country, and if any of the eastern automobiles ever stray so far away from home, I will assure them a warm welcome from us all.

We have some thirty machines in the town, and although most of them are small runabouts, there are several of good power.

Our roads are built by the county, and are top dressed with a covering of crushed flint and limestone from the mines, that we call "tailings," and that makes a perfect road. There are something like 150 miles of these roads in the country, and we appreciate them greatly.

I will send you some views I have taken of them and if they are of use to you I hope you will avail yourself of them.

C. E. HART.

Cartersville, Mo.

Escaped a Collision.

Editor THE AUTOMOBILE:

Sir:—Being a member of a party having a very narrow escape, during a 40-mile run last week, the writer thought it might interest some of your readers. We were a party of four besides the chauffeur in a Winton touring car, driven by B. C. Fuller, and while nearing a curve in the road at a 30-mile clip between Petersboro and Orchard Place, about 12 miles south of Denver, a four mule team attached to a Fort Logan commissary wagon was seen, head on, tearing down the road. The chauffeur's only chance to avoid collision, seemed to be, keep straight ahead, which would take us into a grove of heavy timber to the left of the road; this was done, and for fear of skidding, when we struck the turf, the driver did not put on his brake, but made for a clear space between two trees, which lay directly in our course. These we passed through safely, when the power was shut off and brakes put on, but not until we had cleared a four foot ditch, about 40 feet from our escape from the trees.

No one was hurt nor was the machine damaged, which we all voted was due to two causes, the ease and precision with which the car obeyed the wheel and the cool head of the chauffeur, Mr. Fuller. The photograph here shown was taken when care was used to pass between the

trees and the width measured, which showed we had just six inches clearance.

A. D. L.

Denver, Colo.

Paper for Coil Winding.

Editor THE AUTOMOBILE:

Sir:—You printed an article some time ago on "How to Make a Spark Coil." I have worked out one, and got along all right till I came to wind the secondary. The writer of the article says: "Use very thin paper 0.025 thick between layers." Is the decimal point in the right place? Should it not be .0025? I assumed that the first zero was of no value, making it .025. I started to wind, but soon found that my coil was full size, and not one-third of the wire on it. I find that in winding with thread between the wires it helps, if winding on a screw lathe, to have the feed set for the required number of turns per inch, and rest the hand on the moving rest, the wire and thread will then lay even and regular. This may help others who may want to make a coil.

JOS. WILLS.

Niagara Falls, N. Y.

The article referred to was printed in our issue of March 14 and the decimal point was incorrectly placed, reading "0.025 of an inch" instead of .0025 of an inch.—Ed.

Life of Tires.

Editor THE AUTOMOBILE:

Sir:—During the past year much discussion has taken place in this country over the tire question. Of the many different types of cars that have come to New Zealand of late, most have experienced great

your opinion as to whether solid or pneumatic tires are the best to equip an 800 pound machine with.

J. CARNE BIDWILL.

New Zealand.

The life of tires is very variable, and often seems a matter of pure luck. A good double tube or "clincher" tire under a light car should last 3,000 to 5,000 miles on fair roads before its outer cover is worn out, and we have heard of tires lasting double this. The inner tubes would probably be replaced several times in the above mileage. In a hot country the life of the rubber would doubtless be shorter. It seems to be the general experience that single tube tires give way from incurable punctures before they are really worn out in service. Their life will therefore be a matter of luck and construction, and may be anything up to 3,000 miles.—Ed.

Auxiliary Spark Gap.

Editor THE AUTOMOBILE:

Sir:—Will you kindly tell me through your columns if the new spark gap devices will work properly on a jump spark coil not provided with a trembler, or if they can only be used on the model equipped with the vibrator? I have heard the statement made that the vibrator is necessary, also that it is not, and also that, while they will work with the coil not equipped with the vibrator, they work better with the vibrator coil.

F. A. ALCOTT.

Cleveland.

The auxiliary spark gap will work well with any coil and any trembler that give good results with a clean plug. The more



A TIGHT SQUEEZE TO ESCAPE COLLISION NEAR DENVER, COLO.

trouble with their (pneumatic) tires. Some cars have been able to get only 1,000 miles out of them before they were quite worn out. I should consider it a great favor if you would give your opinion as to the distance that a pneumatic tire should carry a machine, say of 800 pounds weight, over average roads. I should also like to have

the plug is allowed to foul the longer will the auxiliary gap need to be; and, of course, the battery power will require to be correspondingly increased.—Ed.

Trenton, N. J., has a public automobile that seats ten persons. A trial trip was run to New Brunswick a few days ago.

Manufacturers Take Independent Action.

National Association Decides to Hold Fall Endurance Run to Pittsburg, to Fight Doughty-Bailey Law to a Finish and Proposes a Commercial Vehicle Contest.

Action that for the first time places the manufacturers in direct opposition to the Automobile Club of America was taken by the National Association of Automobile Manufacturers at a meeting of the executive committee held last Wednesday at the headquarters at 7 East 42nd Street, New York, at which it was decided that the association would promote an endurance contest to be held next fall over a course from New York City to Pittsburg. The distance of 500 miles will be covered in three days. The route will probably be through Philadelphia, Baltimore and Washington, to give the run the greatest publicity and make it of the most educational value. The awards are to be made on the French percentage system, certain percentages being based on number of stops made, fuel consumed, braking efficiency and operation. There will be hill climbing and brake contests on arrival in Pittsburg. No dates or final details have yet been decided upon, but are in the hands of the technical committee.

The manufacturers' committee did not look with much favor on the intention of the Automobile Club of America to hold a reliability run to Montreal in October, as the chief purpose of such a contest is to show what the vehicles will do in actual work on the road, and the route of the Montreal run passes through territory above Albany in which little interest is taken in automobiles. Asked regarding the intention of the manufacturers toward the club's Montreal contest, President Budlong, of the N. A. A. M., stated that the association had received no official notice of the intention of the club to promote such a test. The obvious expectation is that the manufacturers will support the Pittsburg event exclusively, but an officer of the Automobile Club, when interviewed, said that the action of the manufacturers' association would probably not cause the club to abandon its Montreal run, notwithstanding its previous endurance runs have been most largely supported by the trade. He said that the proposed reliability run is purely a club affair and a part of its regular schedule of events for the season, and intimated that the members of the club would take care to see that it is a success.

PLAN COMMERCIAL VEHICLE TRIALS.

The executive committee also instructed the technical committee of the association to arrange plans for a future contest of commercial vehicles, most of the members of the association having refrained from entering the May 20-21 contest, promoted by the Automobile Club, owing to a sentiment that it was held too early in the development of the business vehicle to do

the industry good. The technical committee appointed to take charge of these matters is composed of A. L. Riker, chairman; Rollin H. White, Charles E. Duryea, Otto Berg and H. W. Adler.

CONTRACTED FOR CHICAGO SHOWS.

A three years' contract was made with S. A. Miles for the holding of annual shows in the Coliseum in Chicago. A new office of manager of the association was created, and Mr. Miles was appointed to the position. He will make his headquarters at the New York office and take charge of the executive work of the organization. No action was taken in connection with the New York show for next winter, but it is expected that an attempt will be made by the association to hold it independently of the Automobile Club.

CHAUFFEUR REGULATIONS TABLED.

By tabling the report of the committee on the subject of local regulations concerning employed chauffeurs, which had been drafted by the New York Automobile Trade Association with the intention of having them approved by the National Association of Automobile Manufacturers and the Automobile Club of America, the association showed further evidence of not desiring to co-operate with the club. In explanation of this action it has been explained that the makers thought best not to make any recognition of the operators, as it might lead to demands for recognition in other ways.

WILL FIGHT THE BAILEY LAW.

The present crisis in the relations between the Manufacturers' Association and the Automobile Club arises from a feeling among the manufacturers that the management of the club has not given sufficient consideration to the interests of the makers in its management of automobile affairs, which feeling was brought to a head by the acceptance of the notorious Bailey bill by the president and the law committee of the club, ostensibly on behalf of all automobilists. Although the club has, since its enactment, decided to fight this law, the Manufacturers' Association at its last meeting decided to oppose it independently, and retained Prof. Charles Thaddeus Terry, of Columbia University, as its attorney to conduct the campaign, which it is proposed to carry to the Supreme Court if necessary. It is the belief of members of the association that all such licensing laws are unconstitutional, and Professor Terry will make a careful study of the New York law, to be prepared to make a test case of an early arrest under it. He has been instructed to determine what points are the best to attack and to

report at the next meeting, at which a large fund to fight the law will be raised.

"Neither time nor expense will be spared," said President Budlong, "in meeting the Bailey law fairly and squarely and fighting it to a finish. At the next meeting of the committee, on July 1, everything will be settled regarding the campaign." It is hinted that, in case of victory over the New York law, the fight will be carried into other States. And it is further intimated that a bill based on law and equity has been prepared for presentation to the legislature at its next session.

Home and Foreign.

Regulations for the international automobile race for the Bennett Cup in Ireland July 2, provide that the whole course shall be closed from 6 o'clock in the morning until the race is declared ended.

A trackless trolley system has been introduced in the Biela Valley, near Dresden, Germany, and thus far its use has been pronounced a complete success on suburban lines for the transportation of both passengers and freight. The trolley permits of a train consisting of motor cars and trailers, to turn aside in passing vehicles on the road.

Great disappointment is felt in Indianapolis because the automobile races scheduled for Decoration Day had to be postponed on account of rain. The track was a sea of mud when the time for the first event came and there was nothing to do but to call the meet off for the time. The management says the races will be given later in the Summer, but no date is announced.

The La France automobile chemical cart and hose wagon exhibited at the last New York show was given a test on the streets of Harrisburg, Pa., recently. A speed of twenty-five miles an hour was developed, the machine being checked with ease over street car crossings and around vehicles. The exhibition was made by the International Fire Engine Company of New York.

There are persistent rumors that C. H. Wheeler, one of the best known inventors of endless solid tires for automobiles and carriages, is soon to establish a new factory for making tires in Akron. Mr. Wheeler will neither deny or confirm the report, but having purchased a farm near the city, is giving his time exclusively just now to fitting up a fine country place.

Automobiles to the total value of \$645,000 were imported into the United States during the twelve months ending with June, 1902, according to the government report just issued. These vehicles were shipped from the different countries and cities as follows: France, Paris, automobiles and parts, \$567,766; Havre, autos, \$62,919.02; Dijon, autos, \$5,983; Nice, autos and accessories, \$1,084.27, and Aix la Chapelle, autos, \$409.36. Italy, Milan, motor cars, \$4,051.82. Belgium, Brussels, autos, \$2,788.85.

Denver-Palmer Lake Endurance Contest.

Reliability of Vehicles Tried out under the Auspices of the Colorado Automobile Club—But Classification According to Weight and Price.

Special Correspondence.

DENVER, June 1.—The course of the May 30 endurance contest promoted by the Colorado Automobile Club, was from Denver to Palmer Lake, a distance of 49¾ miles, and return. Controls were established at Littleton, (10½ miles), Sedalia (24¾ miles), and Perry Park, (39½ miles). The rules of the run were simple, and were based on those adopted for previous endurance contests in the East. The competing machines were classified according to weight and price, however, instead of by type and power. These classes were as follows:

Class A—Four-wheeled motor vehicles in commercial running and operating condition weighing less than 1,000 pounds with all tools, fuel and supplies on board, and listing at \$1,000 or less.

Class B—Four-wheeled motor vehicles weighing 1,000 pounds and less than 2,000 pounds, with all tools and supplies on and listing at \$1,000 to \$2,000.

Class C—Four-wheeled motor vehicles weighing 2,000 pounds or more with all tools and supplies on and listing at \$2,000 or more.

Only such repairs as could be made with the tools and parts ordinarily carried when touring were permitted, and they must be made with only such assistance as could be readily obtained when on tour. Each car was required to carry one official observer, furnished by the club, and the observers changed cars at Palmer Lake. Average speed in excess of 14.11 miles an hour was prohibited, with a minimum average limit of ten miles exclusive of non-penalized stops. Speed in towns had to be reduced to eight miles.

THE COURSE AND WEATHER.

The course selected included road conditions widely varying, with hills and sandy stretches alternating with pieces of road that furnished excellent traveling.

The weather was excellent, the sun shining brightly in the morning, and a light breeze blowing. The dust had been laid by light showers on Friday. On the even-

ing of Saturday, during the return trip, the wind blew fiercely and operators and observers found refuge behind goggles and masks.

The start was made at 8:02 A. M., in the order given in the accompanying table. The run to Palmer Lake was made in an easy manner, no effort being made to "sprint" owing to the clearly defined rules and restrictions.

SLIGHT TROUBLES ON OUT TRIP.

Shortly after the start No. 17, Locomobile, owned and operated by M. J. Patterson, met with a slight accident in making the turn into Mexico Street, but the trouble was quickly remedied and the car proceeded on its way. On approaching Littleton No. 12, Gasmobile, owned by W. R. Eaton, was temporarily disabled owing to a failure of the low speed gear, but after some delay the vehicle was again started. It arrived at Palmer Park after the control was closed.

Mrs. E. L. Matthewson, Mrs. Fletscher and Miss Barnes, although not entered in the run, accompanied the contestants all the way, and finished the course well within the scheduled time and without a mishap.

All the cars arrived at Palmer Lake inside of forty-seven minutes after C 6, Winton, arrived first at 12:30. There had been a difference of thirty-four minutes between the departure of the first and last car from Denver. The first contestant leaving Palmer Lake on the return was B 3, Rambler, at 1:15:10, and the last B 12, Gasmobile, left at 3:40. The first to finish in Denver was B 3, Rambler, at 5:14, and all but three of the eighteen competitors finished inside of the next forty minutes. The times of departure and arrival of each contestant at the two ends of the course are given in the accompanying table.

A RAMBLER UPSETS.

The most serious mishap of the day was the upsetting of B 4, Rambler, driven

by C. H. Johnson, five miles from Sedalia on the return trip. It occurred at a sharp turn in the road where there was deep, loose sand. Johnson's car struck the sand at an angle, veered and turned completely over, with Johnson and Observer Fletcher under it. Fortunately both escaped unhurt and in a few minutes righted the machine. Examination showed that a wheel had buckled and three spokes were broken. The damage was repaired as well as possible and they continued the trip, but finished long after all the other contestants.

POSSIBLE FIRST PRIZE WINNERS.

Owing to unfortunate discrepancies in the times as taken by the timers, the observers, and the judges, a number of protests have been filed, so it will be several days before the official results are announced and the prizes awarded. First prize doubtless lies between the Winton C 6, the Rambler B 3, Winton C 19, Rochet-Schneider C 7, and Winton C 2.

Louis Lindahl, in the Winton C 6, made a flawless, non-stop run, and even at controls did not make any examinations or adjustments. He did not replenish his gasoline supply at all and took on water only once. He arrived at controls and departed exactly on time and his times corresponded exactly with those of the officials.

A clean record was made also by E. W. Swansbrough in Rambler B 3, with the exception that the judges declare he arrived at Palmer Lake five minutes ahead of time and penalized him for it; but Swansbrough protested the penalty, asserting that the watches of the official timers disagreed.

R. A. Miller, in the Rochet-Schneider, made a clean score barring arriving at Littleton two minutes ahead of time, for which he was penalized. But he claimed that the blue flag at the mile limit from the control was down and entered a protest.

Santos Dumont is all the time reducing the size of his private balloons. The last one contains only 260 cubic meters of gas, and is driven by a three horse power motor. This is barely able to sustain the aeronaut's slender body on his little aerial promenades. For the St. Louis Fair next year he is "building" one to contain 2,000 cubic meters and intended to carry a number of passengers.

Table of Arriving and Departing Times in Denver-Palmer Lake Endurance Contest May 30.

No.	Name.	Power.	Owner.	Operator.	Observer.	Start Denver.	Arrival Palmer Lake.	Start Palmer Lake.	Arrival Denver.
C 2	Winton	Gasoline	E. H. Hurlbut	F. J. Tell	W. R. McFadden	8:02	12:33:00	1:18:00	5:18:30
B 3	Rambler	Gasoline	E. R. Cumbe	E. W. Swansbrough	G. H. Newkirk	8:04	12:30:10	1:15:10	5:14:00
B 4	Rambler	Gasoline	C. H. Johnson	E. H. Johnson	J. T. Fletcher	8:06	12:43:30	1:28:30
B 5	Rambler	Gasoline	E. R. Cumbe	George Eyster	E. L. Beard	8:08	12:37:30	1:30:00	5:28:50
C 6	Winton	Gasoline	Colorado Auto Co.	Louis Lindahl	Ed. Bostwick	8:10	12:30:00	1:24:30	5:21:30
C 7	Rochet-Schneider	Gasoline	MacNeil & Penrose	Robert Miller	J. H. Nichols, Jr.	8:12	12:41:00	1:26:00	5:22:00
C 8	Winton	Gasoline	E. A. Colburn	H. C. Colburn	Bryan Haywood	8:14	12:45:00	1:30:50	5:30:30
A 9	Olds	Gasoline	Geo. E. Hannan	E. L. Mathewson	F. B. Tritch	8:16	12:47:30	1:32:30	5:32:15
A 10	Olds	Gasoline	Geo. E. Hannan	Geo. E. Hannan	H. D. Steele	8:18	12:50:00	1:35:10	5:37:30
A 11	Olds	Gasoline	G. E. Turner	G. E. Turner	F. I. Ewing	8:20	12:55:00	1:40:10	5:40:00
B 12	Gasmobile	Gasoline	W. R. Eaton	G. W. McClintock	W. G. Sperry	8:22	12:58:49	3:40:00
B 13	White	Steam	Chas. Bilz	Chas. Bilz	W. H. Frazier	8:24	1:02:45	2:00:00	5:52:30
B 14	White	Steam	Chas. Bilz	M. B. Hughes	C. A. Yont	8:26	12:56:30	1:41:30	5:42:00
B 15	Autocar	Gasoline	J. S. Riche	M. B. Riche	O. T. Higgins	8:28	1:05:05	1:43:40	5:44:30
B 16	Cadillac	Gasoline	A. T. Wilson	A. T. Wilson	G. H. Denton	8:30	1:07:10	1:52:10	5:49:00
B 17	Locomobile	Steam	M. J. Patterson	M. J. Patterson	T. E. James	8:32	1:17:00	2:02:00	5:54:00
B 18	General	Gasoline	Colorado Auto Co.	R. W. Boone	F. D. Brown	8:34	1:08:05	2:06:00
C 19	Winton	Gasoline	W. W. Price	W. W. Price	G. A. Maxwell	8:36	1:09:00	1:54:00	5:51:00



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SATURDAY, JUNE 13, 1903.

QUESTION OF LIABILITY.

We have received a letter from a subscriber, the substance of which is as follows:

"I was out one Sunday afternoon in my automobile and I chanced to meet a lady and her little grandson. I passed them O. K., but just as I passed the horse began to run and the lady began to scream. The horse began to almost fly. Some one ran out to stop him and he shied and plunged into an electric light pole, smashing the buggy. Both the occupants were unconscious when picked up. The lady recovered, but the child died next day. I think I will have trouble, but my auto was noiselessly gliding along. I met them face to face. She had plenty of time to notice what the horse was going to do. I believe had there been a gentleman with her she might have gotten by all right."

The correspondent asks our advice on the premises. The best advice which occurs to us to give is to consult the ablest attorney in his district.

The question of liability in our judgment will probably turn on whether he was properly operating his machine. He says that he was "noiselessly gliding along," but does not state the speed at which he was so gliding. The horse appears to have first been frightened by the machine passing him, and second by the

grandmother's screams and his subsequent collision with the electric light pole appears to have been due to his attempt to dodge the person who ran out to stop him. The plaintiff in the case would have, of course, to satisfy the jury by a preponderance of evidence that the operator of the machine was so operating it in breach of an ordinance or of common sense as to make him liable as the one whose act occasioned the accident. She would also have to prove that his act was the proximate cause of the accident.

It would be unfortunate, if the act of the automobilist in any manner occasioned this unfortunate and lamentable accident, resulting in a death, that the matter should be allowed to go to trial. Perhaps he was absolutely without conscious fault in the premises.

It is impossible for a publication of this sort to give opinions on questions of liability of this character without knowledge of all the facts, including the local ordinances and the speed at which the machine was running, and to all such inquiries our first answer must remain always the best.

THE FLYWHEEL CLUTCH.

It has been somewhat the fashion to regard the "French" type of gasoline vehicle, with motor in front, flywheel clutch, sliding gear speed changes, pedal control, wheel steering gear, and two-chain or propeller shaft drive, as very nearly the last word in design. Doubtless, too, this opinion will for some time be confirmed by future practice, which does not at present seem to promise any very revolutionary improvements, but to aim rather to mitigate, by simplifying of details, the high cost of construction, which is admittedly the chief drawback of the French type.

Recognition of the merit of the type, however, does not compel unreserved acceptance of all its features, and not seldom we are agreeably reminded that progress is still possible by the adoption by our Gallic cousins of some device already well identified with American construction. One of these features, which has done good service, but may yet be supplanted by a better, is the conical flywheel clutch. The worst feature of the early forms of this clutch, its end thrust on the motor shaft bearings, is now got around in most machines by a self-contained arrangement of parts, in which the thrust bearing is not working when the clutch is engaged. It is still open, however, to the objection that it is difficult to prevent it from taking hold with a jerk, a peculiarity which, though of slight moment in a small car, becomes more or less annoying in a large one. On the other hand, its great durability and the fact that it very seldom needs adjustment are advantages not easily matched in other forms.

Although it is not physically impossible to obtain gradual engagement with a conical

clutch, by letting the releasing pedal come up very slowly, it seems to be much easier to obtain this result when only part, instead of the whole of the rubbing surfaces come together at once.

This is managed in some clutches by backing one edge of the leather facing with springs instead of with solid metal; but this is at best a patchwork construction, and does not commend itself to the mechanical eye. Other clutches have two concentric cones, of which the smaller engages first, and, not being able to carry the load alone, slips till the other engages. This is more mechanical, but even more expensive, and we may as well face the fact that the conical clutch and progressive contact are two things mutually antipathetic. If we are to insist on progressive contact we had much better look for it in some other type, and it may be suggestive that a well-known French firm has lately obtained a patent on a modified form of the familiar band or "wind-up" clutch.

The wind-up clutch, however, is not ideal. It is not always perfectly balanced; it lacks precision of movement, and if it is not to demand frequent adjustment it must depend for engagement on the constant pressure of its principal spring, which brings up the problem of end thrust again. Moreover, most forms of wind-up clutch are influenced by centrifugal force, which the conical clutch never is.

In looking for an improved flywheel clutch we must remember that it is of the first importance that the clutch shaft and all parts connected thereto shall be as light as possible, where sliding gears are used. The shock observed when shifting these gears is due wholly to the abrupt change in angular velocity of the clutch shaft, and the heavier this shaft and the attached parts—gears and clutch member—the more violent will be the shock and the greater the risk of stripping the gears. So far as its momentum goes, for a given power and speed, there appears to be little to choose between a large clutch cone with narrow face, and a small cone with wide face. Either is so heavy as to demand aluminum as its only proper material. But if we are to discard the cone clutch, it should certainly be for one as much lighter as other conditions will permit. Quite possibly this will not be the wind-up clutch, and, if not, the solution may be found in the use of metal-to-metal surfaces so designed as to transmit, without breaking down, a much higher power per unit of surface than is possible with leather on metal.

It might almost be said that the *train balladeur* is only waiting for a light flywheel clutch to enable it to displace the planetary and individual clutch systems altogether in popular priced machines, as it has already done in those of the higher class.

MARCEL RENAULT AND THE PARIS-MADRID.

The greatest shock to the French automobile industry was doubtless the accident to Marcel Renault, the winner of the Paris-Vienna race. For two days it was hoped that he would survive, though his skull was crushed, but he expired at Coubé-Verac, near Poitiers, surrounded by his brothers and other relatives without regaining consciousness once after the fatal collision. He and his brother Louis held a highly enviable position as constructors and manufacturers, being the originators of the bevel-gear drive with cardan joints now almost universally adopted for light cars and the first to show that cars of light weight (650 kilograms) and moderate power could equal the heavy weight cars in speed and durability. It was thought by many in France, however, that Zborowski and not Renault should have been declared the winner of the Paris-Vienna race; and that both of these fearless drivers have now been killed while racing gives rise to the reflection that it is no longer skill and a good machine which mainly determine the victory in road races, but such utter disregard of extreme dangers as must sooner or later prove suicidal. Charron, Fournier, Girardot and Rene de Knyff are no longer in the winners' class, but on the other hand, they are alive.

Commercial Vehicle Awards.

The awards made by the contest committee of the Automobile Club of America to the contestants in the May 20 and 21 commercial vehicle trials are given in the accompanying table. The complete report of the contest, with records of stops and troubles and data of fuel and water consumption is not yet out. A protest has been filed by Arthur Herschmann, who claims a gold medal for the steam express truck No. 7, weighing 10,225 pounds, and carrying a load of 3,805 pounds. As a rule of the contest required all vehicles in the regular classes to carry a load of at least 50 per cent. of the weight of the vehicle empty, no medal was awarded to this Herschmann truck, but Mr. Herschmann asserts that this vehicle was not designed to

Winton-Fournier Match Races Queried.*Special Correspondence.*

CLEVELAND, June 6.—Cleveland racing enthusiasts are all torn up over a statement published in "The Press" of this city to the effect that A. G. Batchelder, American manager for Henri Fournier, the French automobile racing man, had announced that before sailing for Ireland, Alexander Winton declared he had not agreed to race Fournier in this country this summer, and that if an agreement had been signed, the signing was without authority.

It will be remembered that at the New York automobile show last winter, Fournier and Winton were getting columns of publicity about a probable match race. The matter dragged along for a week, and then the newspaper writers, fearing that the whole affair might come to naught, and that neither Winton nor Fournier intended to race, served notice on the representatives of the two men that something must be done at once or the statement would be made that the proposed match was a bluff. Fournier at once agreed to sign articles for a race. Winton was at the Metropolitan Opera House and Charles B. Shanks went to him with the newspaper writer's ultimatum. Later in the evening Shanks came back and stated that on Winton's authority he was ready to sign the articles. The following day the articles were signed by Fournier for himself, by Shanks for Winton, by Al Reeves, representing the Empire City track, and by W. G. Pollock, representing the Glenville track, Cleveland.

Several times within the past few weeks Batchelder has written or telegraphed to

Shanks inquiring if Mr. Winton intended to carry out his agreement to race, and each time Shanks replied that Winton stood ready to carry out his agreement. In view of these statements and the close relations known to exist between Shanks and Winton, their friends in this city are loath to believe that Mr. Winton ever repudiated the agreement, and the opinion is freely expressed that Fournier never intended to race, and that Batchelder's statements were made to throw the blame for the breaking of the match on Winton and Shanks, at a time when they were abroad and unable to properly defend themselves.

George Collister, a very close friend of both Winton and Shanks states that he was present when the agreement between Fournier and Shanks was signed. He said he was positive that Shanks had thoroughly discussed the matter with Winton, and had obtained the latter's authority before signing the agreement. Mr. Collister stated also that he had personally talked with Winton regarding the details of the match, and had every reason to believe that when Winton left for Europe, he fully intended to return to Cleveland for the match race.

Fournier is now in France, and it is generally believed that he does not care to return to this country, and that his New York representative has taken this method of helping him out of the agreement, and at the same time throwing the blame on Winton. It is safe to say that Winton and Shanks will be heard from when the story reaches the other side.

carry more than 3,000 pounds, and it had been entered in a special class designated in the rules as miscellaneous, and that as the club officials accepted the entry and allowed it to compete, and as it was the only vehicle to finish in this class, a gold medal is due.

Russian Long-Distance Race.

A Moscow to St. Petersburg automobile race is announced to take place during the

coming summer. The distance will be 650 versts (400 miles), with seven control stations. Five high power automobiles are expected to take part, ten from six to twelve horse power, and six smaller ones, with twelve motor-cycles. It is stated that several well known foreign sportsmen will enter their machines.

A new speed ordinance for automobiles is being prepared by the officials of Department of Public Safety in Pittsburg, Pa.

OFFICIAL AWARDS, AUTOMOBILE CLUB OF AMERICA'S COMMERCIAL VEHICLE CONTEST.**Class 1—To Carry 750 Pounds.**

No. 10. Mobile Company of America, Tarrytown, N. Y. Steam Delivery Wagon—Gold Medal.

Class 2—To Carry 1,500 Pounds.

No. 11. Knox Automobile Co., Springfield, Mass. Gasoline Delivery Wagon, Open—Gold Medal.

No. 12. Knox Automobile Co., Springfield, Mass. Gasoline Delivery Wagon, Covered—Silver Medal.

No. 5. International Motor Car Co., Toledo, O. Waverley Electric Delivery Wagon—Bronze Medal.

Class 3—To Carry 3,500 Pounds.

NONE.

Class 4—To Carry 6,000 Pounds.

No. 9. Morgan Motor Co., Worcester, Mass. Three-Ton Steam Truck—Gold Medal.

Class 5—To Carry 10,000 Pounds.

No. 1. T. Coulthard & Co., London, England. Five-Ton Steam Truck—Gold Medal.

ASKS INJUNCTION AGAINST LICENSING ORDINANCE.

WASHINGTON DEALER FIGHTS LAW

Court Cites District Commissioners to Show Cause Why They Should Not Be Restrained from Enforcing New Licensing and Numbering Law—Claimed to Be Unconstitutional.

Special Correspondence.

WASHINGTON, D. C., June 6.—Equity proceedings have been instituted by Carl J. Lockwood against the District of Columbia and the commissioners of the district, to enjoin them from putting in force the new automobile regulations. Mr. Lockwood sets forth in detail that he is engaged in the automobile business and declares that but for the proposed regulations he could make upward of \$200 per month. He adds that he is the owner of an automobile and has property rights in the business and in the right to run the machine upon the public streets of Washington. The automobile business, he asserts, is a staple one and cannot be interfered with without authority of law. Others, in addition to the complainant, have established such business, the petitioner goes on to say, and recently a hue and cry was raised against the owners and agents of such machines, and the commissioners are about to promulgate certain unlawful and unconstitutional regulations against those engaged in the business.

The various acts of Congress establishing the present form of government of the District of Columbia and empowering the commissioners to make reasonable and usual police regulations are referred to, and it is alleged that article 24, embodying the new regulations, is an attempt on the part of the Commissioners to pass general legislation discriminating between motor vehicles and other vehicles, which, it is claimed, is beyond the power of the Commissioners and in violation of the constitutional rights of the people of the District.

It is asserted the Commissioners have exhausted their power in the regulations heretofore made upon the subject and the regulation requiring the machines to be numbered and constituting a board of examiners, is specifically attacked as unreasonable, unjust and unlawful. The petitioner points out that the numbering will not only not serve any good purpose, but will tend to prevent the owners from loaning or renting their machines or having the full and proper use they are entitled to have of their private property. Further, it is argued that the requirement for a permit to use the machines will deter persons from purchasing automobiles and will interfere with the trial of the same by prospective buyers, all of which, it is declared, will greatly damage the complainant. The court is asked to restrain the enforcement of the regulations temporarily and permanently.

Upon consideration of the complaint, the court issued a rule requiring the Commis-

sioners to show cause why they should not be enjoined and restrained from promulgating and enforcing sections 1 to 4 and 8 and 9 of the proposed regulations.

ANSWER OF COMMISSIONERS.

The Commissioners have filed their answer, in which they take occasion to deny that the promulgation of the proposed regulations would in any way prevent the increase of the business of the complainant or cause him any injury, irreparable or otherwise, and, they say, the regulations will in no manner interfere with the business of Mr. Lockwood, and if the same affect indirectly the business by requiring automobiles to be operated only by competent persons, the regulations properly applied to the business will operate to the safety of any machine hired, exhibited or tested and for the benefit of the complainant.

It is further stated in the answer that the several property rights alleged and in the use of the public streets are subject at all times to the due and reasonable control of the municipal corporation. All the allegations of the complainant are denied by the Commissioners. They deny the statement of fact that the only difference between the automobile and other private carriages is that such carriages dispense with the use of horses. They say that motor vehicles, by reason of the high power capable of being used in their propulsion, have been and still continue to be driven along the streets of the District at an excessive and dangerous rate of speed, and that the vehicles, by reason of the power mentioned, depending upon the character thereof, require competent persons familiar with the construction of such machines to some extent, and who understand the operation of the machinery thereof, to drive and control the same, and differ in that respect from the use of other private vehicles.

For such reasons and others, it is declared, the automobiles require regulations additional than those now existing. The Commissioners point out that the same regulations in effect and others of a more drastic character have been used and promulgated and found by experience to be necessary respecting automobiles in other parts of the United States.

ORDINANCE REQUIRING 5-INCH NUMBERS PASSED IN CHICAGO.

Special Correspondence.

CHICAGO, June 6.—The city council at a recent meeting passed the ordinance requiring that signs giving the number of the owners' licenses in figures five inches high be borne on all automobiles, and Mayor Harrison has declared that he will sign it. The Mayor suggests as an amendment that a clause be inserted forbidding drivers to remove the identifying sign when they get into trouble.

The appeal of A. C. Banker for an injunction against the enforcement of the ordinance requiring licenses has not been

considered by Judge Haney owing to the judicial election campaign.

The ordinance when signed will therefore be put into force and unless a favorable decision is given to Mr. Banker's appeal Chicago automobilists will have to bear huge numbers on their cars. The South Park Board has informed City Electrician Ellicott that its ordinance requiring license numbers in figures 4 1-2 inches high will be changed to require figures 5 inches high, agreeing with the city ordinance.

The woes of Chicago motorists will be further increased if an ordinance which has been received with favor by the members of the city council of Evanston is passed. It imposes a fine of from \$100 to \$250 on all violators of the eight-mile speed limit. If this ordinance is adopted it will be duplicated, it is said, by all the other towns along the North Shore Drive, Chicago's finest and most popular driveway among automobilists, and a systematic war will be waged by the villagers against the motorists who throng the road.

The Chicago Automobile Club has not taken any steps to fight the proposed laws, but is devoting its attention to the club runs.

N. A. A. M. SEEKS CO-OPERATION FOR UNIFORM AND JUST LAWS.

A circular letter has been mailed by the National Association of Automobile Manufacturers to its own members, to automobile clubs and to private owners of motor vehicles, asking the co-operation of all in an effort to secure uniform and just laws regulating the operation of motor vehicles in the different States. Copies of the Connecticut and Delaware laws of 1903 accompanied the letter and were given as examples in refreshing contrast to the vindictive and absurd law recently enacted by the New York State Assembly and signed by Governor Odell, notwithstanding the widespread and vigorous protests of manufacturers and users of automobiles throughout the State.

"We have no sympathy with careless, reckless or inconsiderate driving," said the letter. "We are as anxious as anyone to have the wholesome, and indeed severe, provisions of the highway law and penal code firmly enforced. But because some individuals have violated, and do violate, the law relating to the use of their machines upon the public highways, we find no justice in the attempt made in some states to so amend the existing statutes that an automobilist is liable to be stamped as criminal for any slight and unintentional disregard of the law.

"We believe that well directed effort by automobile clubs, manufacturers and the ever-increasing number of owners will be productive of uniform and fair regulations which will provide for severe pun-

ishment to the few who are unmindful of the comfort and safety of others, but which will not take away from law-abiding automobilists their right to the free use of the highways.

"We invite your co-operation in the work for:

"1. Reasonable and uniform laws.

"2. No discrimination against the automobile in favor of the horse, mule, or other domestic animals."

"3. Adequate penalties for the suppression of that enemy to the automobile industry and sport, namely, the reckless driver.

"We append copies of the Connecticut and Delaware laws and shall be glad if you will write us your views."

The new Connecticut laws were published in full in THE AUTOMOBILE for May 9. The Delaware law was approved March 31, 1903. It is very brief, containing but three sections. The first section requires any person driving an automobile on the public highway of the State to slow down upon approaching any vehicle drawn by animals, and if the animal or animals become badly frightened so that there is danger of injury to the occupant of the vehicle, to come to a full stop until the vehicle has passed. It also prohibits the use of an automobile on the highway until it has been provided with a horn, bell or other signal instrument, with which due warning must be given when approaching other vehicles where curves in the road obscure the view.

Section 2 provides a fine of not more than \$10 for each violation, while section 3 provides that nothing in the act shall be construed to curtail or abridge the right of any person to entertain a civil action for damages for injuries received through the use by another of an automobile on the road.

FAREWELL BANQUET TO L. P. MOOERS, WHO SAILED WEDNESDAY.

A number of well known New York newspaper men and members of the automobile press attended a farewell reception and dinner at the Criterion Hotel in New York last Tuesday at the invitation of the Peerless Motor Car Co. in honor of L. P. Mooers, the third member of the American Gordon Bennett cup team, who sailed at noon, Wednesday, on the Teutonic. The big Peerless racer was put on board the day before.

The banquet table was tastefully decorated with American Beauty roses, and the cigars were encircled with silk bands in the national colors, while a keen tone of Americanism pervaded the occasion. President Kittredge, of the Peerless Company, who sat at the head of the table with Mr. Mooers on his left, made a short speech, referring to the international char-

acter of the Gordon Bennett contest, and to the fact that this is the first occasion that America has made a determined bid for automobile honors abroad. He stated that victory for one of our contestants would do much for the automobile trade in this country, and that whether the Peerless car won or lost he considered it an honor to have it compete. Mr. Mooers spoke briefly, simply saying that he was going across to do his best. He amused those present by remarking that "At least I have one chance in twelve." A number of speeches were made by representatives of the trade and press, all very patriotic and hopeful of victory.

A large number of Mr. Mooers's personal friends and well wishers were at the pier to see him off on Wednesday. At the last moment W. J. Morgan decided to sail with Mooers and stay with him until after the great international event.

FIRST DAYTON RACE MEET MAY 30 DRAWS BIG CROWD.

Special Correspondence.

DAYTON, O., June 1.—No sporting event ever held in Dayton attracted as much attention as did the Decoration Day meet under the auspices of the Dayton Automobile Club. The day was unfavorable for the sport, but despite this fact, the fair grounds were packed as never before. The grand stand was filled an hour before the events started, while the fence along the stretch was lined with humanity. Hundreds of people came from Troy, Springfield, Xenia and other towns, and it was estimated that fully ten thousand people watched the races.

Some of the events had to be cancelled for various reasons, and in other events some of those who had entered failed to start. Edward Borderwisch, a local operator, from whom much had been expected, failed to show up among the prize winners because of punctured tires early in the events. Earl Kiser, the old-time bicycle champion, won the two principal events with a 5½ horse power Oldsmobile stripped for the occasion. It was a stock machine, geared higher than usual, and with it Kiser beat machines of from 10 to 20 horse power, and established a track record of 1:34 for the mile. J. V. Dickson, of Cleveland, competed with his new 900-pound General racer and captured one first, a third and a fourth. The large cars that competed in the various events were at a great disadvantage because of the short turns and lack of banking, being unable to make the turns at full speed.

The summary of the events follows:

SUMMARIES.

No. 1—Two miles for electrics: George G. Peckham, (National) first; Charles Rooney (Waverley) second. Time, 6:54½.

No. 2—Three miles for gasoline cars weighing 1,000 pounds and less, fully equipped: Harold Talbott (Olds) first; Dr.

Lounsbury, second; George F. Andress (Olds) third. Time, 7:55 2-5.

No. 3—Three miles for gasoline machines, weighing 1,000 pounds or less, stripped or otherwise: J. T. Dickson (General) first; J. W. Small (Cadillac) second; Edward Borderwisch (Olds) third. Time, 6:07.

No. 4—No starters.

No. 5—Five-mile motorcycle race: C. J. Wagner (Indian) first; Charles Rooney (Indian) second. Time, 9:18¾.

No. 6—Three miles for machines weighing 1,500 pounds or less, fully equipped: J. M. Small (Cadillac) first; Charles Utzinger (Cadillac) second; Harry Cappell (Cadillac) third. Time, 5:57.

No. 7—Three miles for gasoline cars weighing 1,500 or less, stripped: Earl Kiser (Olds) first; Frank Hill (Stearns) second; J. V. Dickson (General) third. Time, 5:03¾.

No. 8—Five miles, open to all machines: Earl Kiser (15 horse power Winton) first; Frank Hilt (12 horse power Stearns) second; Carl Baumann (12 horse power Stearns) third; Edward Borderwisch (6½ horse power Glide) fourth. Time, 8:25.

No. 9—Three miles for motor cycles: C. J. Wagner (Indian) first; H. W. Gardiner (Orient) second; C. Rooney (Indian) third. Time, 6:25. Rooney blew out his spark plug.

No. 10—Three miles, for gasoline machines weighing 2,000 pounds or less, stripped: Frank P. Hilt (Stearns) first; Earl Kiser (Winton) second; J. V. Dickson (General) third; Carl Baumann (Stearns) fourth. Time, 5:00. The race was won by a length, Kiser having led up to the last half, when Hilt came up and passed him amid deafening cheers.

Nos. 11 and 12 omitted.

No. 13—Unlimited pursuit race: Frank Hilt (Stearns) first; L. M. Petre (Stearns) second; J. V. Dickson (General) third. Time, 8:00.

No. 14—Two-mile match race: Dr. A. F. Bowman, first; Harry Talbott, second. Time, 5:02 2-5.

No. 15—Half mile exhibition: Charles Rooney (Indian). Time, 4. 1-5.

EARLY ENTRIES FOR FLORIDA RACES ASSURE SUCCESS.

Very early work has been done toward insuring that the next winter tournament of the Florida East Coast Automobile Association on the Ormond-Daytona sea beach shall be a success. Already promises to enter the races and speed trials have been secured from such well known drivers as L. P. Mooers, Henry Ford, Barney Oldfield, George C. Cannon, F. E. Stanley, John Wilkinson, Earl Kiser, Tom Cooper, George Holley, J. C. Brandes and C. G. Wridgeway.

Among those who have applied for membership in the association to be entered on the associate membership roll are the following:

Carlton R. Mabley, Percy Owen, Chester C. Boynton and Frederick Glassup of New York; J. A. Kingman, of Bridgeport; E. R. Thomas, F. J. Wagner and John W. Frey, of Buffalo; A. C. Benjamin and H. W. Chapin, of Syracuse; Geo. L. Banker, and James Artman, of Philadelphia; A. L. Banker, of Pittsburg; M. L. Goss and Ralph M. Owen and F. Philip Dorn, of Cleveland; Thomas Hay and H. O. Smith, of Indianapolis; W. Y. Atwood and William Gray, of Amesbury, Mass.; Wm. H. Gates, of Worcester, Mass.; C. Monroe, of Attleboro, Mass.; K. L. Ryman, of Newark; W. A. Richwine, of Ardmore, Pa.; H. J. Dingman, of Akron, O.; John A. Carter, of Geneva, O.; Elwood Haynes, of Kokomo; J. B. Hedges, Grand Rapids; and G. A. Wahlgreen, Denver.

The officers of the association are as follows: President, Dr. H. H. Seelye, Daytona; first vice-president, W. H. Peters, Daytona; second vice-president, John Anderson, Ormond; secretary, John B. Parkinson, Daytona; treasurer, S. H. Gove, Daytona. Executive committee, C. R. Oliver, Louis Adler, E. G. Harris, J. A. Hendricks, C. A. Young, Daytona; J. F. Hathaway, Somerville, Mass.; J. D. Price, Ormond; J. P. Beckwith, St. Augustine, Fla.; W. J. Morgan, New York; Frank X. Mudd, Chicago; Alex. Winton, Cleveland; Chas. B. Ryan, Portsmouth, Va.

Information regarding membership or tournament matters can be obtained from John B. Parkinson, secretary, Daytona, Fla., or W. J. Morgan, 1 Maiden Lane, New York.

Cleveland Club Activities.

Special Correspondence.

CLEVELAND, June 6.—At a meeting of the Cleveland Automobile Club a committee was appointed to arrange for a two-day automobile meet this summer. This committee has about decided that September 1 and 2 will be the most desirable dates for holding the meet. The club has received assurances from a number of prominent manufacturing concerns in this section that they will send racing machines to compete in the events, and there is every prospect that the meet will prove even a greater drawing card than the Glenville meet of last year.

In addition to the race meet the club is arranging for several other attractions during the summer. It is proposed to have a run on July 4 to Elyria and return. A show of Elyria tradesmen is to be held on that date, and the club members think they can have lots of fun by invading the town during the progress of the exhibition.

The Cleveland Automobile Club has received notice of several automobile ordinances passed by neighboring towns. It appears that even in towns where an automobile is seldom seen, the authorities have found it necessary to pass regulations against the "dangerous machines," and as the fever for passing such ordinances seems to be spreading, it has been suggested that

the club publish a booklet giving the status of conditions in the various towns through which members are likely to pass in their tours. A new ordinance at Akron, O., requires front and rear lights and a license tag, and provides a speed limit of eight miles an hour in the down town section and twelve miles an hour elsewhere. The city fathers at Bucyrus decided that although no automobiles were owned in town, it would be well to provide a fine of \$25 for any outsider who might exceed eight miles an hour while passing through.

AUTO PARADE TO OPEN HOME WEEK IN BRIDGEPORT.

Special Correspondence.

BRIDGEPORT, June 8.—An automobile parade is to be the opening feature of an Old Home week carnival which is to begin on Monday, August 31, and extend throughout the week.

The parade will start at 10 o'clock.

A committee of prominent members of the Automobile Club of Bridgeport has been organized to make the necessary arrangements, and have full charge of the affair. A. L. Riker, vice president of the Locomobile Company, of America, is chairman, and W. S. Teel, Jr., vice president of the Automobile Club of Bridgeport, is secretary. Invitations have been sent to all the automobile clubs in the vicinity of Bridgeport, as well as to individual owners of motor cars, to participate. The committee desires that, where possible, clubs or squads of automobiles drive to Bridgeport on Sunday, August 30, to be on hand for the parade. Prizes will be awarded for the best decorated machine.

Monday afternoon there will be a civic and military parade, and on following days there will be horse and carriage, industrial, firemen's, comic and labor parades.

PABST BREWING CO. MAY SUPPLANT HORSES WITH ELECTRIC TRUCKS.

Special Correspondence.

MILWAUKEE, May 30.—The Pabst Brewing Company, of this city, is considering the project of supplanting all of its horses and wagons with motor vehicles. The company has to do an enormous amount of trucking, and the change will necessitate a huge outlay.

An electric beer truck is now being built by the Vehicle Equipment Company in Brooklyn, which will be brought to this city about July 4 and tested by the Pabst Company. If it proves satisfactory, steps will be taken to supply every department of the huge brewing concern from which trucking is done with similar wagons. Fifty trucks will be placed in commission, carrying loads to and from the freight houses in the large cities where it has depots. Later, it is planned to use motor trucks in delivering beer to the saloons and for all the lighter work as well as the heavy trucking.

This will mark the arrival in the West

of the motor vehicle as a factor in heavy shipping. Not only the brewing company but several of the large Western packing concerns are interested in the matter, and should the Pabst people decide to institute a motor truckage system, it is thought that the Armour and Swift companies, which are watching the experiment, will follow suit.

The fact that the Pabst Company is the first of the large concerns of the West to take an interest in motor trucking is all the more notable for the reason that Capt. Fred Pabst and both of his sons, Gustav and Fred Pabst, Jr., are ardent horse admirers. Gustav Pabst is president of the Milwaukee Horse Show Association, and is known as one of the best whips in the city. The company has 500 head of valuable draft horses.

Makers Designing 1904 Cars.

Nearly all of the Cleveland manufacturers have begun feeling their way with a view to determining what they will build for the season of 1904, and several makers have already completed preliminary plans for new cars. Two manufacturers who are now pushing single cylinder gasoline machines will build double cylinder cars also next season, and will probably pay more attention to the latter than to the former.

"We find," said one manufacturer, "that the majority of people who are able to buy an automobile at all, are willing to pay a little more and secure a car that has ample power to carry four people up all kinds of grades. The majority of single cylinder machines will not do this. Some of the single cylinder machines are very satisfactory for two passengers, even under severe conditions, but people want a machine that can be equipped with a tonneau and be thoroughly reliable for all kinds of rough country roads under heavy loads. To add to the power will, of course, add to the cost of machines. As a matter of fact, a number of the light machines now on the market are being sold too cheaply. The advance in the cost of material and higher wages which every manufacturer in Cleveland has had to pay within the past few weeks makes it necessary that we secure somewhat better prices another year."

Death of H. A. Lozier.

H. A. Lozier, pioneer bicycle manufacturer, who organized the H. A. Lozier Manufacturing Co., makers of the Cleveland bicycle, and later of Cleveland motor tricycles, with large factories in Toledo, Ohio; Thompsonville, Conn.; and Westfield, Mass., died of heart failure in his apartments at the Waldorf-Astoria, New York, on Monday, May 25.

From an humble beginning Mr. Lozier advanced his interests at a rapid rate, and at his death held a very high position in the business world. In 1900 he sold his bicycle interests to the American Bicycle Co. The deceased was also the principal organizer of the Shelby Steel Tube Works.